UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

FORM 10-Q

☑ **QUARTERLY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the quarterly period ended March 31, 2019

OR

☐ **TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

Commission File Number 000-51405

FEDERAL HOME LOAN BANK OF DALLAS

(Exact name of registrant as specified in its charter)

Federally chartered corporation (State or other jurisdiction of incorporation or organization)	**71-6013989** (I.R.S. Employer Identification Number)
8500 Freeport Parkway South, Suite 600 **Irving, TX** (Address of principal executive offices)	**75063-2547** (Zip code)

(214) 441-8500
(Registrant's telephone number, including area code)

Indicate by check mark whether the registrant [1] has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and [2] has been subject to such filing requirements for the past 90 days. Yes ☑ No ☐

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (17 C.F.R. §232.405) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes ☑ No ☐

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company" and "emerging growth company" in Rule 12b-2 of the Exchange Act:

Large accelerated filer ☐	Accelerated filer ☐	Non-accelerated filer ☑ (Do not check if a smaller reporting company)	Smaller reporting company ☐	Emerging growth company ☐

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act.☐

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes ☐ No ☑

Securities registered pursuant to Section 12(b) of the Act:

Title of each class	Trading symbol(s)	Name of each exchange on which registered
None	Not applicable	Not applicable

Indicate the number of shares outstanding of each of the issuer's classes of common stock, as of the latest practicable date: At May 3, 2019, the registrant had outstanding 25,564,636 shares of its Class B Capital Stock, $100 par value per share.

FEDERAL HOME LOAN BANK OF DALLAS

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PART I. FINANCIAL INFORMATION

ITEM 1. FINANCIAL STATEMENTS

FEDERAL HOME LOAN BANK OF DALLAS
STATEMENTS OF CONDITION
(Unaudited; in thousands, except share data)

	March 31, 2019	December 31, 2018
ASSETS		
Cash and due from banks	$ 47,497	$ 35,157
Interest-bearing deposits	1,256,255	2,500,317
Securities purchased under agreements to resell (Note 11)	5,515,000	6,215,000
Federal funds sold	2,125,000	1,731,000
Trading securities (Note 3)	3,592,104	1,818,178
Available-for-sale securities (Notes 4, 11 and 16) ($742,649 and $712,547 pledged at March 31, 2019 and December 31, 2018, respectively, which could be rehypothecated)	16,135,812	15,825,155
Held-to-maturity securities [(a)] (Note 5)	1,416,816	1,462,279
Advances (Notes 6 and 8)	36,096,595	40,793,813
Mortgage loans held for portfolio, net of allowance for credit losses of $611 and $493 at March 31, 2019 and December 31, 2018, respectively (Notes 7 and 8)	2,594,412	2,185,503
Accrued interest receivable	162,010	152,670
Premises and equipment, net	15,908	16,419
Derivative assets (Notes 11 and 12)	52,328	9,878
Other assets (including $12,341 and $12,376 of securities held at fair value at March 31, 2019 and December 31, 2018, respectively)	27,755	27,921
TOTAL ASSETS	$ 69,037,492	$ 72,773,290
LIABILITIES AND CAPITAL		
Deposits		
Interest-bearing	$ 792,026	$ 963,972
Non-interest bearing	20	20
Total deposits	792,046	963,992
Consolidated obligations (Note 9)		
Discount notes	37,369,065	35,731,713
Bonds	26,746,361	31,931,929
Total consolidated obligations	64,115,426	67,663,642
Mandatorily redeemable capital stock	7,753	6,979
Accrued interest payable	134,076	122,938
Affordable Housing Program (Note 10)	45,736	44,358
Derivative liabilities (Notes 11 and 12)	20,090	45,991
Other liabilities (Note 4)	210,971	161,134
Total liabilities	65,326,098	69,009,034
Commitments and contingencies (Notes 8 and 16)		
CAPITAL (Note 13)		
Capital stock		
Capital stock — Class B-1 putable ($100 par value) issued and outstanding shares: 9,881,836 and 9,169,206 shares at March 31, 2019 and December 31, 2018, respectively	988,183	916,921
Capital stock — Class B-2 putable ($100 par value) issued and outstanding shares: 14,433,936 and 16,379,675 shares at March 31, 2019 and December 31, 2018, respectively	1,443,394	1,637,967
Total Class B Capital Stock	2,431,577	2,554,888
Retained earnings		
Unrestricted	960,243	932,675
Restricted	160,372	148,692
Total retained earnings	1,120,615	1,081,367
Accumulated other comprehensive income (Note 19)	159,202	128,001
Total capital	3,711,394	3,764,256
TOTAL LIABILITIES AND CAPITAL	$ 69,037,492	$ 72,773,290

[(a)] Fair values: $1,431,789 and $1,478,691 at March 31, 2019 and December 31, 2018, respectively.

The accompanying notes are an integral part of these financial statements.

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FEDERAL HOME LOAN BANK OF DALLAS
STATEMENTS OF INCOME
(Unaudited, in thousands)

	For the Three Months Ended March 31,	
	2019	**2018**
INTEREST INCOME		
Advances	$ 237,864	$ 155,345
Prepayment fees on advances, net	124	1,981
Interest-bearing deposits	11,121	769
Securities purchased under agreements to resell	25,297	7,179
Federal funds sold	18,504	28,988
Trading securities	18,025	569
Available-for-sale securities	119,008	79,958
Held-to-maturity securities	11,053	10,232
Mortgage loans held for portfolio	23,094	8,622
Total interest income	464,090	293,643
INTEREST EXPENSE		
Consolidated obligations		
Bonds	190,768	128,145
Discount notes	196,251	94,536
Deposits	4,922	2,785
Mandatorily redeemable capital stock	52	25
Other borrowings	1	59
Total interest expense	391,994	225,550
NET INTEREST INCOME	72,096	68,093
Provision for mortgage loan losses	118	—
NET INTEREST INCOME AFTER PROVISION FOR LOAN LOSSES	71,978	68,093
OTHER INCOME (LOSS)		
Net gains (losses) on trading securities	3,227	(2,348)
Net gains on derivatives and hedging activities	8,766	1,823
Net gains on other assets carried at fair value	913	13
Realized gains on sales of available-for-sale securities	440	—
Letter of credit fees	2,780	2,146
Other, net	851	640
Total other income	16,977	2,274
OTHER EXPENSE		
Compensation and benefits	13,566	12,552
Other operating expenses	8,034	7,849
Finance Agency	1,183	963
Office of Finance	948	930
Discretionary grants and donations	38	1,388
Derivative clearing fees	296	309
Total other expense	24,065	23,991
INCOME BEFORE ASSESSMENTS	64,890	46,376
Affordable Housing Program assessment	6,494	4,640
NET INCOME	$ 58,396	$ 41,736

The accompanying notes are an integral part of these financial statements.

FEDERAL HOME LOAN BANK OF DALLAS
STATEMENTS OF COMPREHENSIVE INCOME
(Unaudited, in thousands)

	For the Three Months Ended March 31,	
	2019	**2018**
NET INCOME	$ 58,396	$ 41,736
OTHER COMPREHENSIVE INCOME (LOSS)		
Net unrealized gains on available-for-sale securities, net of unrealized gains and losses relating to hedged interest rate risk included in net income	52,263	40,399
Reclassification adjustment for realized gains on sales of available-for-sale securities included in net income	(440)	—
Unrealized gains (losses) on cash flow hedges	(20,390)	13,840
Reclassification adjustment for (gains) losses on cash flow hedges included in net income	(807)	310
Accretion of non-credit portion of other-than-temporary impairment losses to the carrying value of held-to-maturity securities	593	773
Postretirement benefit plan		
Amortization of prior service cost included in net periodic benefit credit	5	5
Amortization of net actuarial gain included in net periodic benefit credit	(23)	(26)
Total other comprehensive income	31,201	55,301
TOTAL COMPREHENSIVE INCOME	$ 89,597	$ 97,037

The accompanying notes are an integral part of these financial statements.

FEDERAL HOME LOAN BANK OF DALLAS
STATEMENTS OF CAPITAL
FOR THE THREE MONTHS ENDED MARCH 31, 2019 AND 2018
(Unaudited, in thousands)

	Capital Stock Class B-1 - Putable (Membership/Excess)		Capital Stock Class B-2 - Putable (Activity)		Retained Earnings			Accumulated Other Comprehensive Income	Total Capital
	Shares	Par Value	Shares	Par Value	Unrestricted	Restricted	Total		
BALANCE, JANUARY 1, 2019	9,169	$ 916,921	16,380	$ 1,637,967	$ 932,675	$ 148,692	$ 1,081,367	$ 128,001	$ 3,764,256
Net transfers of shares between Class B-1 and Class B-2 Stock	5,329	532,841	(5,329)	(532,841)	—	—	—	—	—
Proceeds from sale of capital stock	3	342	3,383	338,268	—	—	—	—	338,610
Repurchase/redemption of capital stock	(4,786)	(478,639)	—	—	—	—	—	—	(478,639)
Shares reclassified to mandatorily redeemable capital stock	(23)	(2,326)	—	—	—	—	—	—	(2,326)
Adjustment to initially apply new lease accounting guidance (Note 2)	—	—	—	—	(25)	—	(25)	—	(25)
Comprehensive income									
Net income	—	—	—	—	46,716	11,680	58,396	—	58,396
Other comprehensive income	—	—	—	—	—	—	—	31,201	31,201
Dividends on capital stock [(a)]									
Cash	—	—	—	—	(66)	—	(66)	—	(66)
Mandatorily redeemable capital stock	—	—	—	—	(13)	—	(13)	—	(13)
Stock	190	19,044	—	—	(19,044)	—	(19,044)	—	—
BALANCE, MARCH 31, 2019	9,882	$ 988,183	14,434	$ 1,443,394	$ 960,243	$ 160,372	$ 1,120,615	$ 159,202	$ 3,711,394
BALANCE, JANUARY 1, 2018	8,534	$ 853,462	14,645	$ 1,464,475	$ 832,826	$ 108,937	$ 941,763	$ 220,326	$ 3,480,026
Net transfers of shares between Class B-1 and Class B-2 Stock	5,245	524,463	(5,245)	(524,463)	—	—	—	—	—
Proceeds from sale of capital stock	7	736	4,803	480,269	—	—	—	—	481,005
Repurchase/redemption of capital stock	(4,586)	(458,612)	—	—	—	—	—	—	(458,612)
Shares reclassified to mandatorily redeemable capital stock	(3)	(386)	—	—	—	—	—	—	(386)
Comprehensive income									
Net income	—	—	—	—	33,388	8,348	41,736	—	41,736
Other comprehensive income	—	—	—	—	—	—	—	55,301	55,301
Dividends on capital stock [(b)]									
Cash	—	—	—	—	(65)	—	(65)	—	(65)
Stock	110	10,999	—	—	(10,999)	—	(10,999)	—	—
BALANCE, March 31, 2018	9,307	$ 930,662	14,203	$ 1,420,281	$ 855,150	$ 117,285	$ 972,435	$ 275,627	$ 3,599,005

[(a)] Dividends were paid at annualized rates of 2.35 percent and 3.35 percent on Class B-1 Stock and Class B-2 Stock, respectively, in the first quarter of 2019.

[(b)] Dividends were paid at annualized rates of 1.33 percent and 2.33 percent on Class B-1 Stock and Class B-2 Stock, respectively, in the first quarter of 2018.

The accompanying notes are an integral part of these financial statements.

FEDERAL HOME LOAN BANK OF DALLAS
STATEMENTS OF CASH FLOWS
(Unaudited, in thousands)

	For the Three Months Ended March 31,	
	2019	**2018**
OPERATING ACTIVITIES		
Net income	$ 58,396	$ 41,736
Adjustments to reconcile net income to net cash provided by (used in) operating activities		
Depreciation and amortization		
Net premiums and discounts on advances, consolidated obligations, investments and mortgage loans	26,926	17,524
Concessions on consolidated obligations	1,669	1,113
Premises, equipment and computer software costs	1,058	919
Non-cash interest on mandatorily redeemable capital stock	50	22
Provision for mortgage loan losses	118	—
Gains on sales of available-for-sale securities	(440)	—
Net gains on other assets carried at fair value	(913)	(13)
Net losses (gains) on trading securities	(3,227)	2,348
Loss (gain) due to changes in net fair value adjustment on derivative and hedging activities	(289,965)	169,357
Increase in accrued interest receivable	(9,236)	(6,034)
Decrease (increase) in other assets	3,757	(3,371)
Increase in Affordable Housing Program (AHP) liability	1,378	928
Increase in accrued interest payable	11,160	7,790
Decrease in other liabilities	(5,924)	(9,754)
Total adjustments	(263,589)	180,829
Net cash provided by (used in) operating activities	(205,193)	222,565
INVESTING ACTIVITIES		
Net decrease (increase) in interest-bearing deposits, including swap collateral pledged	1,281,703	(60,218)
Net decrease in securities purchased under agreements to resell	700,000	1,750,000
Net decrease (increase) in federal funds sold	(394,000)	1,105,000
Purchases of trading securities	(10,804,787)	—
Proceeds from sales of trading securities	8,841,671	—
Proceeds from maturities of trading securities	200,000	—
Purchases of available-for-sale securities	(507,626)	(766,072)
Proceeds from maturities of available-for-sale securities	180,799	33,102
Proceeds from sales of available-for-sale securities	411,145	—
Proceeds from maturities of held-to-maturity securities	46,317	80,732
Principal collected on advances	149,506,560	189,611,459
Advances made	(144,760,729)	(188,490,335)
Principal collected on mortgage loans held for portfolio	35,395	16,703
Purchases of mortgage loans held for portfolio	(443,923)	(158,773)
Purchases of premises, equipment and computer software	(663)	(1,002)
Net cash provided by investing activities	4,291,862	3,120,596

	For the Three Months Ended March 31,	
	2019	2018
FINANCING ACTIVITIES		
Net increase (decrease) in deposits, including swap collateral held	(171,768)	153,533
Net receipts (payments) on derivative contracts with financing elements	(73,692)	50,608
Net proceeds from issuance of consolidated obligations		
Discount notes	65,649,636	80,172,581
Bonds	4,442,865	7,069,552
Debt issuance costs	(1,935)	(1,334)
Payments for maturing and retiring consolidated obligations		
Discount notes	(64,037,381)	(86,049,099)
Bonds	(9,740,345)	(4,804,290)
Proceeds from issuance of capital stock	338,610	481,005
Payments for redemption of mandatorily redeemable capital stock	(1,614)	(5,517)
Payments for repurchase/redemption of capital stock	(478,639)	(458,612)
Cash dividends paid	(66)	(65)
Net cash used in financing activities	(4,074,329)	(3,391,638)
Net increase (decrease) in cash and cash equivalents	12,340	(48,477)
Cash and cash equivalents at beginning of the period	35,157	87,965
Cash and cash equivalents at end of the period	$ 47,497	$ 39,488
Supplemental Disclosures:		
Interest paid	$ 353,761	$ 211,069
AHP payments, net	$ 5,116	$ 3,712
Stock dividends issued	$ 19,044	$ 10,999
Dividends paid through issuance of mandatorily redeemable capital stock	$ 13	$ —
Variation margin recharacterized as settlement payments on derivative contracts (Note 11)	$ —	$ 250,468
Net capital stock reclassified to mandatorily redeemable capital stock	$ 2,326	$ 386
Right-of-use assets acquired by lease	$ 2,539	$ —

The accompanying notes are an integral part of these financial statements.

FEDERAL HOME LOAN BANK OF DALLAS

NOTES TO INTERIM UNAUDITED FINANCIAL STATEMENTS

Note 1—Basis of Presentation

The accompanying interim financial statements of the Federal Home Loan Bank of Dallas (the "Bank") are unaudited and have been prepared in accordance with accounting principles generally accepted in the United States of America ("U.S. GAAP") for interim financial information and with the instructions provided by Article 10, Rule 10-01 of Regulation S-X promulgated by the Securities and Exchange Commission ("SEC"). Accordingly, they do not include all of the information and disclosures required by generally accepted accounting principles for complete financial statements. The financial statements contain all adjustments that are, in the opinion of management, necessary for a fair statement of the Bank's financial position, results of operations and cash flows for the interim periods presented. All such adjustments were of a normal recurring nature. The results of operations for the periods presented are not necessarily indicative of the results to be expected for the full fiscal year or any other interim period.

The Bank's significant accounting policies and certain other disclosures are set forth in the notes to the audited financial statements for the year ended December 31, 2018. The interim financial statements presented herein should be read in conjunction with the Bank's audited financial statements and notes thereto, which are included in the Bank's Annual Report on Form 10-K for the year ended December 31, 2018 filed with the SEC on March 25, 2019 (the "2018 10-K"). The notes to the interim financial statements update and/or highlight significant changes to the notes included in the 2018 10-K.

The Bank is one of 11 district Federal Home Loan Banks, each individually a "FHLBank" and collectively the "FHLBanks," and, together with the Office of Finance, a joint office of the FHLBanks, the "FHLBank System." The Office of Finance manages the sale and servicing of the FHLBanks' consolidated obligations. The Federal Housing Finance Agency ("Finance Agency"), an independent agency in the executive branch of the U.S. government, supervises and regulates the housing government-sponsored enterprises ("GSEs"), including the FHLBanks and the Office of Finance.

Use of Estimates and Assumptions. The preparation of financial statements in conformity with U.S. GAAP requires management to make assumptions and estimates. These assumptions and estimates may affect the reported amounts of assets and liabilities, the disclosure of contingent assets and liabilities, and the reported amounts of income and expenses. Significant estimates include the valuations of the Bank's investment securities, as well as its derivative instruments and any associated hedged items. Actual results could differ from these estimates.

Note 2—Recently Adopted Accounting Guidance

Leases. On February 25, 2016, the Financial Accounting Standards Board ("FASB") issued Accounting Standards Update ("ASU") 2016-02, *"Leases"* ("ASU 2016-02"), which requires entities that lease assets (lessees) to recognize in the balance sheet assets and liabilities for the rights and obligations created by those leases. Specifically, ASU 2016-02 requires a lessee of operating or finance leases to recognize a right-of-use asset and a liability to make lease payments for leases with terms of more than 12 months. Lessor accounting will remain largely unchanged from current U.S. GAAP. The guidance is to be applied using a retrospective transition method to each period presented or, alternatively, by recognizing a cumulative effect adjustment to the opening balance of retained earnings in the period of adoption. The transition method allowing for a cumulative effect adjustment to the opening balance of retained earnings is provided by ASU 2018-11, *"Leases: Targeted Improvements"* ("ASU 2018-11"). ASU 2018-11 was issued by the FASB on July 30, 2018. ASU 2016-02 also requires extensive quantitative and qualitative disclosures to help financial statement users understand the amount, timing and uncertainty of cash flows arising from leases. For public business entities, the guidance in ASU 2016-02 is effective for fiscal years, and interim periods within those fiscal years, beginning after December 15, 2018 (January 1, 2019 for the Bank). Early adoption was permitted. The Bank adopted ASU 2016-02 effective January 1, 2019. In conjunction with the adoption of ASU 2016-02 (as amended by ASU 2018-11), the Bank recorded (on January 1, 2019) a cumulative effect adjustment to retained earnings of $25,000 and right-of-use assets and lease liabilities approximating $2,500,000. These assets and liabilities are included in other assets and other liabilities, respectively. Because these amounts are insignificant, the Bank has not provided any quantitative or qualitative disclosures regarding its right-of-use assets and lease liabilities in these financial statements.

Premium Amortization on Purchased Callable Debt Securities. On March 30, 2017, the FASB issued ASU 2017-08, *"Premium Amortization on Purchased Callable Debt Securities"* ("ASU 2017-08"), which amends the amortization period for certain purchased callable debt securities held at a premium, shortening such period to the earliest call date. For public business entities, the guidance in ASU 2017-08 is effective for fiscal years beginning after December 15, 2018 (January 1, 2019 for the Bank), and interim periods within those fiscal years. Early adoption, including adoption in an interim period, was permitted. If an entity early adopted ASU 2017-08 in an interim period, any adjustments were to be reflected as of the beginning of the fiscal year that included that interim period. The guidance was to be applied using a modified retrospective transition approach, with the cumulative-effect adjustment recognized in retained earnings as of the beginning of the period of adoption. The Bank

adopted ASU 2017-08 on January 1, 2019. The adoption of this guidance did not have any impact on the Bank's results of operations or financial condition.

Derivatives and Hedging. On August 28, 2017, the FASB issued ASU 2017-12, *"Targeted Improvements to Accounting for Hedging Activities"* ("ASU 2017-12"), which is intended to improve the financial reporting of hedging relationships to better portray the economic results of an entity's risk management activities in its financial statements. This guidance requires that, for fair value hedges, the entire change in the fair value of the hedging instrument included in the assessment of hedge effectiveness be presented in the same income statement line that is used to present the earnings effect of the hedged item. For cash flow hedges, the entire change in the fair value of the hedging instrument included in the assessment of hedge effectiveness must be recorded in other comprehensive income. In addition, the guidance provides for, but does not require, the use of a qualitative method of assessing hedge ineffectiveness. Among other things, the guidance also permits, but does not require, the following:

- For fair value hedges, measurement of the change in fair value of the hedged item on the basis of the benchmark rate component of the contractual coupon cash flows determined at hedge inception.
- Partial-term fair value hedges of interest-rate risk, in which it can be assumed that the hedged item has a term that reflects only the designated cash flows being hedged.
- For prepayable financial instruments, consideration only of how changes in the benchmark interest rate affect a decision to settle a debt instrument before its scheduled maturity in calculating the change in the fair value of the hedged item attributable to interest rate risk.
- For a cash flow hedge of interest-rate risk of a variable-rate financial instrument, designation of the variability in cash flows attributable to the contractually specified interest rate as the hedged risk (when the contractually specified variable rate is not a benchmark rate).
- For a closed portfolio of prepayable financial assets or one or more beneficial interests secured by a portfolio of prepayable financial instruments, designation of an amount that is not expected to be affected by prepayments, defaults and other events affecting the timing and amount of cash flows as a hedged item (commonly referred to as the "last-of-layer" method).

For public business entities, the guidance in ASU 2017-12 is effective for fiscal years beginning after December 15, 2018 (January 1, 2019 for the Bank), and interim periods within those fiscal years. Early adoption, including adoption in an interim period, was permitted. If an entity early adopted ASU 2017-12 in an interim period, any adjustments were to be reflected as of the beginning of the fiscal year that included that interim period. For cash flow hedges existing on the date of adoption, an entity was required to eliminate the separate measurement of ineffectiveness in earnings by means of a cumulative-effect adjustment to accumulated other comprehensive income with a corresponding adjustment to the opening balance of retained earnings. Among other things, an entity could elect at transition to modify the measurement methodology for hedged items in existing fair value hedges to the benchmark rate component of the contractual coupon cash flows. The cumulative effect of applying this election was to be recognized as an adjustment to the basis adjustment of the hedged item recognized on the balance sheet with a corresponding adjustment to the opening balance of retained earnings. The amended presentation and disclosure guidance is required only prospectively.

The Bank adopted ASU 2017-12 effective January 1, 2019. At adoption, the Bank did not modify any of its then existing fair value or cash flow hedging relationships. Because the Bank had not had any ineffectiveness associated with its cash flow hedges, a cumulative effect adjustment relating to such hedges was not required. The impact of recording fair value hedge ineffectiveness in the same line where the earnings effect of the hedged item is presented reduced net interest income by $9,340,000 and increased net gains on derivatives and hedging activities by an equal and offsetting amount for the three months ended March 31, 2019. The amended presentation and disclosure guidance was applied prospectively; prior period comparative financial information has not been reclassified to conform to the current period presentation. Upon adoption, the Bank did not elect to change the way in which it assesses the effectiveness of its hedging relationships. The Bank is continuing to assess other opportunities that are available under the new guidance including, but not limited to, the use of the benchmark rate component to measure the hedged item in some of its fair value hedging relationships entered into after March 31, 2019 and the use of the last-of-layer method for its mortgage loans held for portfolio.

Inclusion of the Secured Overnight Financing Rate Overnight Index Swap Rate as a Benchmark Interest Rate. On October 25, 2018, the FASB issued ASU 2018-16, *"Inclusion of the Secured Overnight Financing Rate (SOFR) Overnight Index Swap (OIS) Rate as a Benchmark Interest Rate for Hedge Accounting Purposes"* ("ASU 2018-16"). ASU 2018-16 adds the OIS rate based on SOFR (a swap rate based on the underlying overnight SOFR rate) as an eligible benchmark interest rate for purposes of applying hedge accounting. SOFR is a volume-weighted median interest rate that is calculated daily based on overnight transactions from the prior day's trading activity in specified segments of the U.S. Treasury repo market. SOFR was selected by the Alternative Reference Rates Committee as its preferred alternative reference rate to LIBOR.

For entities that had not already adopted ASU 2017-12, the guidance in ASU 2018-16 was required to be adopted concurrently with the adoption of ASU 2017-12. The guidance is to be applied prospectively to qualifying new or redesignated hedging relationships entered into on and after the date of adoption. The Bank adopted ASU 2018-16 effective January 1, 2019. The adoption of this guidance did not have any impact on the Bank's results of operations or financial condition.

Note 3—Trading Securities

Trading securities as of March 31, 2019 and December 31, 2018 were as follows (in thousands):

	March 31, 2019	December 31, 2018
U.S. Treasury Notes	$ 1,770,509	$ 1,818,178
U.S. Treasury Bills	1,821,595	—
Total	$ 3,592,104	$ 1,818,178

Note 4—Available-for-Sale Securities

Major Security Types. Available-for-sale securities as of March 31, 2019 were as follows (in thousands):

	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Estimated Fair Value
Debentures				
U.S. government-guaranteed obligations	$ 451,916	$ 7,386	$ —	$ 459,302
GSE obligations	5,552,561	86,879	2,181	5,637,259
Other	44,668	406	—	45,074
	6,049,145	94,671	2,181	6,141,635
GSE commercial mortgage-backed securities	9,915,864	95,947	17,634	9,994,177
Total	$ 15,965,009	$ 190,618	$ 19,815	$ 16,135,812

Included in the table above are GSE commercial mortgage-backed securities ("MBS") that were purchased but which had not yet settled as of March 31, 2019. The aggregate amount due of $179,106,000 is included in other liabilities on the statement of condition at that date.

Available-for-sale securities as of December 31, 2018 were as follows (in thousands):

	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Estimated Fair Value
Debentures				
U.S. government-guaranteed obligations	$ 447,365	$ 5,652	$ 21	$ 452,996
GSE obligations	5,610,796	77,868	1,831	5,686,833
Other	170,367	461	—	170,828
	6,228,528	83,981	1,852	6,310,657
GSE commercial MBS	9,477,647	73,052	36,201	9,514,498
Total	$ 15,706,175	$ 157,033	$ 38,053	$ 15,825,155

Included in the table above are GSE commercial MBS that were purchased but which had not yet settled as of December 31, 2018. The aggregate amount due of $125,927,000 is included in other liabilities on the statement of condition at that date.

Other debentures are comprised of securities issued by the Private Export Funding Corporation ("PEFCO"). These debentures are fully secured by U.S. government-guaranteed obligations and the payment of interest on the debentures is guaranteed by an agency of the U.S. government. The amortized cost of the Bank's available-for-sale securities includes hedging adjustments.

The following table summarizes (in thousands, except number of positions) the available-for-sale securities with unrealized losses as of March 31, 2019. The unrealized losses are aggregated by major security type and length of time that individual securities have been in a continuous loss position.

	Less than 12 Months			12 Months or More			Total		
	Number of Positions	Estimated Fair Value	Gross Unrealized Losses	Number of Positions	Estimated Fair Value	Gross Unrealized Losses	Number of Positions	Estimated Fair Value	Gross Unrealized Losses
GSE debentures	3	$ 78,072	$ 461	2	$ 150,442	$ 1,720	5	$ 228,514	$ 2,181
GSE commercial MBS	59	1,888,462	10,052	27	890,440	7,582	86	2,778,902	17,634
Total	62	$ 1,966,534	$ 10,513	29	$ 1,040,882	$ 9,302	91	$ 3,007,416	$ 19,815

The following table summarizes (in thousands, except number of positions) the available-for-sale securities with unrealized losses as of December 31, 2018. The unrealized losses are aggregated by major security type and length of time that individual securities have been in a continuous loss position.

	Less than 12 Months			12 Months or More			Total		
	Number of Positions	Estimated Fair Value	Gross Unrealized Losses	Number of Positions	Estimated Fair Value	Gross Unrealized Losses	Number of Positions	Estimated Fair Value	Gross Unrealized Losses
Debentures									
U.S. government-guaranteed obligations	2	$ 59,050	$ 21	—	$ —	$ —	2	$ 59,050	$ 21
GSE debentures	4	224,072	1,831	—	—	—	4	224,072	1,831
GSE commercial MBS	105	3,523,623	35,435	7	38,844	766	112	3,562,467	36,201
Total	111	$ 3,806,745	$ 37,287	7	$ 38,844	$ 766	118	$ 3,845,589	$ 38,053

At March 31, 2019, the gross unrealized losses on the Bank's available-for-sale securities were $19,815,000. All of the Bank's available-for-sale securities are either guaranteed by the U.S. government, issued by GSEs, or fully secured by collateral that is guaranteed by the U.S government. As of March 31, 2019, the U.S. government and the issuers of the Bank's holdings of GSE debentures and GSE MBS were rated triple-A by Moody's Investors Service ("Moody's") and AA+ by S&P Global Ratings ("S&P"). The Bank's holdings of PEFCO debentures are rated triple-A by Moody's and are not rated by S&P. Based upon the Bank's assessment of the creditworthiness of the issuers of the GSE debentures that were in an unrealized loss position at March 31, 2019 and the credit ratings assigned by Moody's and S&P, the Bank expects that these debentures would not be settled at an amount less than the Bank's amortized cost bases in the investments. In addition, based upon the Bank's assessment of the strength of the GSEs' guarantees of the Bank's holdings of GSE commercial MBS and the credit ratings assigned by Moody's and S&P, the Bank expects that its holdings of GSE commercial MBS that were in an unrealized loss position at March 31, 2019 would not be settled at an amount less than the Bank's amortized cost bases in these investments. Because the current market value deficits associated with the Bank's available-for-sale securities are not attributable to credit quality, and because the Bank does not intend to sell the investments and it is not more likely than not that the Bank will be required to sell the investments before recovery of their amortized cost bases, the Bank does not consider any of these investments to be other-than-temporarily impaired at March 31, 2019.

Redemption Terms. The amortized cost and estimated fair value of available-for-sale securities by contractual maturity at March 31, 2019 and December 31, 2018 are presented below (in thousands).

	March 31, 2019		December 31, 2018	
Maturity	Amortized Cost	Estimated Fair Value	Amortized Cost	Estimated Fair Value
Debentures				
Due in one year or less	$ 224,002	$ 224,410	$ 445,731	$ 446,227
Due after one year through five years	2,438,116	2,459,969	2,398,495	2,420,763
Due after five years through ten years	3,305,261	3,372,974	3,256,389	3,312,322
Due after ten years	81,766	84,282	127,913	131,345
	6,049,145	6,141,635	6,228,528	6,310,657
GSE commercial MBS	9,915,864	9,994,177	9,477,647	9,514,498
Total	$ 15,965,009	$ 16,135,812	$ 15,706,175	$ 15,825,155

Interest Rate Payment Terms. At March 31, 2019 and December 31, 2018, all of the Bank's available-for-sale securities were fixed rate securities which were swapped to a variable rate.

Sales of Securities. During the three months ended March 31, 2019, the Bank sold available-for-sale securities with an amortized cost (determined by the specific identification method) of $410,705,000. Proceeds from the sales totaled $411,145,000, resulting in realized gains of $440,000. There were no sales of available-for-sale securities during the three months ended March 31, 2018.

Note 5—Held-to-Maturity Securities

Major Security Types. Held-to-maturity securities as of March 31, 2019 were as follows (in thousands):

	Amortized Cost	OTTI Recorded in Accumulated Other Comprehensive Income	Carrying Value	Gross Unrecognized Holding Gains	Gross Unrecognized Holding Losses	Estimated Fair Value
Debentures						
U.S. government-guaranteed obligations	$ 7,106	$ —	$ 7,106	$ 16	$ —	$ 7,122
State housing agency obligations	135,000	—	135,000	10	588	134,422
	142,106	—	142,106	26	588	141,544
Mortgage-backed securities						
U.S. government-guaranteed residential MBS	464	—	464	—	1	463
GSE residential MBS	1,210,755	—	1,210,755	4,741	1,848	1,213,648
Non-agency residential MBS	73,565	10,074	63,491	13,059	416	76,134
	1,284,784	10,074	1,274,710	17,800	2,265	1,290,245
Total	$ 1,426,890	$ 10,074	$ 1,416,816	$ 17,826	$ 2,853	$ 1,431,789

Held-to-maturity securities as of December 31, 2018 were as follows (in thousands):

	Amortized Cost	OTTI Recorded in Accumulated Other Comprehensive Income	Carrying Value	Gross Unrecognized Holding Gains	Gross Unrecognized Holding Losses	Estimated Fair Value
Debentures						
U.S. government-guaranteed obligations	$ 7,604	$ —	$ 7,604	$ 11	$ —	$ 7,615
State housing agency obligations	135,000	—	135,000	10	1,043	133,967
	142,604	—	142,604	21	1,043	141,582
Mortgage-backed securities						
U.S. government-guaranteed residential MBS	475	—	475	1	—	476
GSE residential MBS	1,253,573	—	1,253,573	6,022	1,117	1,258,478
Non-agency residential MBS	76,294	10,667	65,627	13,222	694	78,155
	1,330,342	10,667	1,319,675	19,245	1,811	1,337,109
Total	$ 1,472,946	$ 10,667	$ 1,462,279	$ 19,266	$ 2,854	$ 1,478,691

The following table summarizes (in thousands, except number of positions) the held-to-maturity securities with unrealized losses as of March 31, 2019. The unrealized losses include other-than-temporary impairments recorded in accumulated other comprehensive income ("AOCI") and gross unrecognized holding losses (or, in the case of the Bank's holdings of non-agency residential MBS, gross unrecognized holding gains) and are aggregated by major security type and length of time that individual securities have been in a continuous loss position.

	Less than 12 Months			12 Months or More			Total		
	Number of Positions	Estimated Fair Value	Gross Unrealized Losses	Number of Positions	Estimated Fair Value	Gross Unrealized Losses	Number of Positions	Estimated Fair Value	Gross Unrealized Losses
Debentures									
State housing agency obligations	—	$ —	$ —	1	$ 34,412	$ 588	1	$ 34,412	$ 588
Mortgage-backed securities									
U.S. government-guaranteed residential MBS	1	434	1	—	—	—	1	434	1
GSE residential MBS	40	580,718	1,728	3	25,096	120	43	605,814	1,848
Non-agency residential MBS	3	11,945	173	10	28,477	1,071	13	40,422	1,244
Total	44	$ 593,097	$ 1,902	14	$ 87,985	$ 1,779	58	$ 681,082	$ 3,681

The following table summarizes (in thousands, except number of positions) the held-to-maturity securities with unrealized losses as of December 31, 2018. The unrealized losses include other-than-temporary impairments recorded in AOCI and gross unrecognized holding losses (or, in the case of the Bank's holdings of non-agency residential MBS, gross unrecognized holding gains) and are aggregated by major security type and length of time that individual securities have been in a continuous loss position.

	Less than 12 Months			12 Months or More			Total		
	Number of Positions	Estimated Fair Value	Gross Unrealized Losses	Number of Positions	Estimated Fair Value	Gross Unrealized Losses	Number of Positions	Estimated Fair Value	Gross Unrealized Losses
Debentures									
State housing agency obligations	—	$ —	$ —	1	$ 33,957	$ 1,043	1	$ 33,957	$ 1,043
Mortgage-backed securities									
GSE residential MBS	32	467,427	1,000	4	31,220	117	36	498,647	1,117
Non-agency residential MBS	3	12,346	295	10	29,070	1,487	13	41,416	1,782
Total	35	$ 479,773	$ 1,295	15	$ 94,247	$ 2,647	50	$ 574,020	$ 3,942

At March 31, 2019, the gross unrealized losses on the Bank's held-to-maturity securities were $3,681,000, of which $1,244,000 were attributable to its holdings of non-agency (i.e., private-label) residential MBS, $1,849,000 were attributable to securities that are either guaranteed by the U.S. government or issued and guaranteed by GSEs and $588,000 were attributable to a security issued by a state housing agency.

As of March 31, 2019, the U.S. government and the issuers of the Bank's holdings of GSE residential MBS ("RMBS") were rated triple-A by Moody's and AA+ by S&P. Based upon the credit ratings assigned by Moody's and S&P and the Bank's assessment of the strength of the GSEs' guarantees of the Bank's holdings of GSE RMBS, the Bank expects that its holdings of GSE RMBS that were in an unrealized loss position at March 31, 2019 would not be settled at an amount less than the Bank's amortized cost bases in these investments. In addition, based upon the Bank's assessment of the creditworthiness of the state housing agency and the triple-A credit ratings assigned by Moody's and S&P, the Bank expects that the state housing agency debenture that was in an unrealized loss position at March 31, 2019 would not be settled at an amount less than the Bank's amortized cost basis in this investment. Because the current market value deficits associated with these securities are not attributable to credit quality, and because the Bank does not intend to sell the investments and it is not more likely than not that the Bank will be required to sell the investments before recovery of their amortized cost bases, the Bank does not consider any of these investments to be other-than-temporarily impaired at March 31, 2019.

The deterioration in the U.S. housing markets that occurred primarily during the period from 2007 through 2011, as reflected during that period by declines in the values of residential real estate and higher levels of delinquencies, defaults and losses on residential mortgages, including the mortgages underlying the Bank's non-agency RMBS, generally increased the risk that the Bank may not ultimately recover the entire cost bases of some of its non-agency RMBS. However, based upon its analysis of the securities in this portfolio, the Bank believes that the unrealized losses as of March 31, 2019 were principally the

result of liquidity risk related discounts in the non-agency RMBS market and do not accurately reflect the currently likely future credit performance of the securities.

Because the ultimate receipt of contractual payments on the Bank's non-agency RMBS will depend upon the credit and prepayment performance of the underlying loans and the credit enhancements for the senior securities owned by the Bank, the Bank closely monitors these investments in an effort to determine whether the credit enhancement associated with each security is sufficient to protect against potential losses of principal and interest on the underlying mortgage loans. The credit enhancement for each of the Bank's non-agency RMBS is provided by a senior/subordinate structure, and none of the securities owned by the Bank are insured by third-party bond insurers. More specifically, each of the Bank's non-agency RMBS represents a single security class within a securitization that has multiple classes of securities. Each security class has a distinct claim on the cash flows from the underlying mortgage loans, with the subordinate securities having a junior claim relative to the more senior securities. The Bank's non-agency RMBS have a senior claim on the cash flows from the underlying mortgage loans.

To assess whether the entire amortized cost bases of its 22 non-agency RMBS holdings are likely to be recovered, the Bank performed a cash flow analysis for each security as of March 31, 2019 using two third-party models. The first model considers borrower characteristics and the particular attributes of the loans underlying the Bank's securities, in conjunction with assumptions about future changes in home prices and interest rates, to project prepayments, defaults and loss severities. A significant input to the first model is the forecast of future housing price changes for the relevant states and core based statistical areas ("CBSAs"), which are based upon an assessment of the individual housing markets. (The term "CBSA" refers collectively to metropolitan and micropolitan statistical areas as defined by the U.S. Office of Management and Budget; as currently defined, a CBSA must contain at least one urban area of 10,000 or more people.) The Bank's housing price forecast as of March 31, 2019 assumed changes in home prices ranging from declines of 6 percent to increases of 14 percent over the 12-month period beginning January 1, 2019. For the vast majority of markets, the changes were projected to range from increases of 2 percent to 6 percent. Thereafter, home price changes for each market were projected to return (at varying rates and over varying transition periods based on historical housing price patterns) to their long-term historical equilibrium levels. Following these transition periods, the constant long-term annual rates of appreciation for the vast majority of markets were projected to range between 2 percent and 5 percent.

The month-by-month projections of future loan performance derived from the first model, which reflect projected prepayments, defaults and loss severities, are then input into a second model that allocates the projected loan level cash flows and losses to the various security classes in the securitization structure in accordance with its prescribed cash flow and loss allocation rules. In a securitization in which the credit enhancement for the senior securities is derived from the presence of subordinate securities, losses are generally allocated first to the subordinate securities until their principal balance is reduced to zero.

Based on the results of its cash flow analyses, the Bank determined it is likely that it will fully recover the remaining amortized cost bases of all of its non-agency RMBS. Because the Bank does not intend to sell the investments and it is not more likely than not that the Bank will be required to sell the investments before recovery of their remaining amortized cost bases, none of the Bank's non-agency RMBS were deemed to be other-than-temporarily impaired at March 31, 2019.

During the year ended December 31, 2016, one of the Bank's non-agency RMBS was determined to be other-than-temporarily impaired. In addition, 14 of the Bank's non-agency RMBS were determined to be other-than-temporarily impaired in periods prior to 2013.

The following table presents a rollforward for the three months ended March 31, 2019 and 2018 of the amount related to credit losses on the Bank's non-agency RMBS holdings for which a portion of an other-than-temporary impairment was recognized in other comprehensive income (in thousands).

	Three Months Ended March 31,	
	2019	2018
Balance of credit losses, beginning of period	$ 8,551	$ 9,443
Increases in cash flows expected to be collected (accreted as interest income over the remaining lives of the applicable securities)	(193)	(240)
Balance of credit losses, end of period	8,358	9,203
Cumulative principal shortfalls on securities held at end of period	(2,105)	(2,048)
Cumulative amortization of the time value of credit losses at end of period	861	636
Credit losses included in the amortized cost bases of other-than-temporarily impaired securities at end of period	$ 7,114	$ 7,791

Redemption Terms. The amortized cost, carrying value and estimated fair value of held-to-maturity securities by contractual maturity at March 31, 2019 and December 31, 2018 are presented below (in thousands). The expected maturities of some debentures could differ from the contractual maturities presented because issuers may have the right to call such debentures prior to their final stated maturities.

	March 31, 2019			December 31, 2018		
Maturity	**Amortized Cost**	**Carrying Value**	**Estimated Fair Value**	**Amortized Cost**	**Carrying Value**	**Estimated Fair Value**
Debentures						
Due after one year through five years	$ 2,998	$ 2,998	$ 3,000	$ 3,497	$ 3,497	$ 3,499
Due after five years through ten years	4,108	4,108	4,122	4,107	4,107	4,116
Due after ten years	135,000	135,000	134,422	135,000	135,000	133,967
	142,106	142,106	141,544	142,604	142,604	141,582
Mortgage-backed securities	1,284,784	1,274,710	1,290,245	1,330,342	1,319,675	1,337,109
Total	$1,426,890	$1,416,816	$1,431,789	$1,472,946	$1,462,279	$1,478,691

The amortized cost of the Bank's mortgage-backed securities classified as held-to-maturity includes net purchase discounts of $2,334,000 and $2,457,000 at March 31, 2019 and December 31, 2018, respectively.

Interest Rate Payment Terms. The following table provides interest rate payment terms for investment securities classified as held-to-maturity at March 31, 2019 and December 31, 2018 (in thousands):

	March 31, 2019	December 31, 2018
Amortized cost of variable-rate held-to-maturity securities other than MBS	$ 142,106	$ 142,604
Amortized cost of held-to-maturity MBS		
Fixed-rate pass-through securities	52	57
Collateralized mortgage obligations		
Fixed-rate	118	135
Variable-rate	1,284,614	1,330,150
	1,284,784	1,330,342
Total	$ 1,426,890	$ 1,472,946

All of the Bank's variable-rate collateralized mortgage obligations classified as held-to-maturity securities have coupon rates that are subject to interest rate caps, none of which were reached during 2018 or the three months ended March 31, 2019.

Sales of Securities. There were no sales of held-to-maturity securities during the three months ended March 31, 2019 or 2018.

Note 6—Advances

Redemption Terms. At March 31, 2019 and December 31, 2018, the Bank had advances outstanding at interest rates ranging from 0.89 percent to 8.27 percent and 0.88 percent to 8.27 percent, respectively, as summarized below (dollars in thousands).

	March 31, 2019		December 31, 2018	
Contractual Maturity	Amount	Weighted Average Interest Rate	Amount	Weighted Average Interest Rate
Due in one year or less	$ 17,032,491	2.50%	$ 21,718,709	2.49%
Due after one year through two years	3,229,333	2.54	2,986,350	2.48
Due after two years through three years	986,411	2.53	1,272,214	2.42
Due after three years through four years	929,184	2.52	951,787	2.49
Due after four years through five years	819,127	2.92	632,862	2.84
Due after five years	13,049,950	2.46	13,230,406	2.42
Total par value	36,046,496	2.50%	40,792,328	2.47%
Premiums	11		12	
Deferred net prepayment fees	(8,165)		(8,683)	
Commitment fees	(106)		(108)	
Hedging adjustments	58,359		10,264	
Total	$ 36,096,595		$ 40,793,813	

The Bank offers advances to members that may be prepaid on specified dates without the member incurring prepayment or termination fees (prepayable and callable advances). The prepayment of other advances requires the payment of a fee to the Bank (prepayment fee) if necessary to make the Bank financially indifferent to the prepayment of the advance. At March 31, 2019 and December 31, 2018, the Bank had aggregate prepayable and callable advances totaling $10,523,968,000 and $10,446,628,000, respectively.

The following table summarizes advances outstanding at March 31, 2019 and December 31, 2018, by the earlier of contractual maturity or next call date, or the first date on which prepayable advances can be repaid without a prepayment fee (in thousands):

Contractual Maturity or Next Call Date	March 31, 2019	December 31, 2018
Due in one year or less	$ 27,399,689	$ 32,024,714
Due after one year through two years	2,684,080	2,434,821
Due after two years through three years	919,299	1,178,054
Due after three years through four years	833,122	848,047
Due after four years through five years	691,029	565,334
Due after five years	3,519,277	3,741,358
Total par value	$ 36,046,496	$ 40,792,328

The Bank also offers putable advances. With a putable advance, the Bank purchases a put option from the member that allows the Bank to terminate the fixed-rate advance on specified dates and offer, subject to certain conditions, replacement funding at prevailing market rates. At March 31, 2019 and December 31, 2018, the Bank had putable advances outstanding totaling $3,007,800,000 and $3,094,300,000, respectively.

The following table summarizes advances outstanding at March 31, 2019 and December 31, 2018, by the earlier of contractual maturity or next possible put date (in thousands):

Contractual Maturity or Next Put Date	March 31, 2019	December 31, 2018
Due in one year or less	$ 19,894,791	$ 24,612,509
Due after one year through two years	3,331,833	3,136,850
Due after two years through three years	1,019,411	1,312,214
Due after three years through four years	929,184	951,787
Due after four years through five years	791,927	611,662
Due after five years	10,079,350	10,167,306
Total par value	$ 36,046,496	$ 40,792,328

Interest Rate Payment Terms. The following table provides interest rate payment terms for advances outstanding at March 31, 2019 and December 31, 2018 (in thousands):

	March 31, 2019	December 31, 2018
Fixed-rate		
Due in one year or less	$ 16,651,106	$ 21,558,023
Due after one year	8,582,807	8,503,772
Total fixed-rate	25,233,913	30,061,795
Variable-rate		
Due in one year or less	381,386	160,686
Due after one year	10,431,197	10,569,847
Total variable-rate	10,812,583	10,730,533
Total par value	$ 36,046,496	$ 40,792,328

At March 31, 2019 and December 31, 2018, 29 percent and 24 percent, respectively, of the Bank's fixed-rate advances were swapped to a variable rate.

Prepayment Fees. When a member/borrower prepays an advance, the Bank could suffer lower future income if the principal portion of the prepaid advance is reinvested in lower-yielding assets. To protect against this risk, the Bank generally charges a prepayment fee that makes it financially indifferent to a borrower's decision to prepay an advance. The Bank records prepayment fees received from members/borrowers on prepaid advances net of any associated hedging adjustments on those advances. These fees are reflected as interest income in the statements of income either immediately (as prepayment fees on advances) or over time (as interest income on advances) as further described below. In cases in which the Bank funds a new advance concurrent with or within a short period of time before or after the prepayment of an existing advance and the advance meets the accounting criteria to qualify as a modification of the prepaid advance, the net prepayment fee on the prepaid advance is deferred, recorded in the basis of the modified advance, and amortized into interest income on advances over the life of the modified advance using the level-yield method. During the three months ended March 31, 2019 and 2018, gross advance prepayment fees received from members/borrowers were $193,000 and $1,642,000, respectively, none of which were deferred.

The Bank also offers advances that include a symmetrical prepayment feature which allows a member to prepay an advance at the lower of par value or fair value plus a make-whole amount payable to the Bank. During the three months ended March 31, 2019, a symmetrical prepayment advance with a par value of $5,000,000 was prepaid. The difference by which the par value of the advance exceeded its fair value, less the make-whole amount, totaled $68,000 and was recorded in prepayment fees on advances. There were no repayments of symmetrical prepayment advances during the three months ended March 31, 2018.

Note 7—Mortgage Loans Held for Portfolio

Mortgage loans held for portfolio represent held-for-investment loans acquired through the Mortgage Partnership Finance® ("MPF"®) program. The following table presents information as of March 31, 2019 and December 31, 2018 for mortgage loans held for portfolio (in thousands):

	March 31, 2019	December 31, 2018
Fixed-rate medium-term* single-family mortgages	$ 11,707	$ 10,885
Fixed-rate long-term single-family mortgages	2,525,719	2,127,142
Premiums	53,726	45,259
Discounts	(1,756)	(1,757)
Deferred net derivative gains associated with mortgage delivery commitments	5,627	4,467
Total mortgage loans held for portfolio	2,595,023	2,185,996
Less: allowance for credit losses	(611)	(493)
Total mortgage loans held for portfolio, net of allowance for credit losses	$ 2,594,412	$ 2,185,503

*Medium-term is defined as an original term of 15 years or less.

The unpaid principal balance of mortgage loans held for portfolio at March 31, 2019 and December 31, 2018 was comprised of government-guaranteed/insured loans totaling $15,253,000 and $15,880,000, respectively, and conventional loans totaling $2,522,173,000 and $2,122,147,000, respectively.

Note 8—Allowance for Credit Losses

An allowance for credit losses is separately established for each of the Bank's identified portfolio segments, if necessary, to provide for probable losses inherent in its financing receivables portfolio and other off-balance sheet credit exposures as of the balance sheet date. To the extent necessary, an allowance for credit losses for off-balance sheet credit exposures is recorded as a liability.

A portfolio segment is defined as the level at which an entity develops and documents a systematic method for determining its allowance for credit losses. The Bank has developed and documented a systematic methodology for determining an allowance for credit losses for the following portfolio segments: (1) advances and other extensions of credit to members/ borrowers, collectively referred to as "extensions of credit to members"; (2) government-guaranteed/insured mortgage loans held for portfolio; and (3) conventional mortgage loans held for portfolio.

Classes of financing receivables are generally a disaggregation of a portfolio segment and are determined on the basis of their initial measurement attribute, the risk characteristics of the financing receivable and an entity's method for monitoring and assessing credit risk. Because the credit risk arising from the Bank's financing receivables is assessed and measured at the portfolio segment level, the Bank does not have separate classes of financing receivables within each of its portfolio segments.

During the three months ended March 31, 2019 and 2018, there were no significant purchases or sales of financing receivables, nor were any financing receivables reclassified to held for sale.

Advances and Other Extensions of Credit to Members. In accordance with federal statutes, including the Federal Home Loan Bank Act of 1932, as amended (the "FHLB Act"), the Bank lends to financial institutions within its five-state district that are involved in housing finance. The FHLB Act requires the Bank to obtain and maintain sufficient collateral for advances and other extensions of credit to protect against losses. The Bank makes advances and otherwise extends credit only against eligible collateral, as defined by regulation. To ensure the value of collateral pledged to the Bank is sufficient to secure its advances and other extensions of credit, the Bank applies various haircuts, or discounts, to the collateral to determine the value against which borrowers may borrow. As additional security, the Bank has a statutory lien on each borrower's capital stock in the Bank.

On at least a quarterly basis, the Bank evaluates all outstanding extensions of credit to members/borrowers for potential credit losses. These evaluations include a review of: (1) the amount, type and performance of collateral available to secure the outstanding obligations; (2) metrics that may be indicative of changes in the financial condition and general creditworthiness of the member/borrower; and (3) the payment status of the obligations. Any outstanding extensions of credit that exhibit a potential credit weakness that could jeopardize the full collection of the outstanding obligations would be classified as substandard, doubtful or loss. The Bank did not have any advances or other extensions of credit to members/borrowers that were classified as substandard, doubtful or loss at March 31, 2019 or December 31, 2018.

The Bank considers the amount, type and performance of collateral to be the primary indicator of credit quality with respect to its extensions of credit to members/borrowers. At March 31, 2019 and December 31, 2018, the Bank had rights to collateral on a borrower-by-borrower basis with an estimated value in excess of each borrower's outstanding extensions of credit.

The Bank continues to evaluate and, as necessary, modify its credit extension and collateral policies based on market conditions. At March 31, 2019 and December 31, 2018, the Bank did not have any advances that were past due, on nonaccrual status, or considered impaired. There have been no troubled debt restructurings related to advances.

The Bank has never experienced a credit loss on an advance or any other extension of credit to a member/borrower and, based on its credit extension and collateral policies, management currently does not anticipate any credit losses on its extensions of credit to members/borrowers. Accordingly, the Bank has not provided any allowance for credit losses on advances, nor has it recorded any liabilities to reflect an allowance for credit losses related to its off-balance sheet credit exposures.

Mortgage Loans — Government-guaranteed or government-insured. The Bank's government-guaranteed or government-insured fixed-rate mortgage loans are guaranteed or insured by the Federal Housing Administration or the Department of Veterans Affairs and were acquired through the MPF program (as more fully described in the Bank's 2018 10-K) in periods prior to 2004. Any losses from these loans are expected to be recovered from those entities. Any losses from these loans that are not recovered from those entities are absorbed by the servicers. Therefore, the Bank has not established an allowance for credit losses on government-guaranteed or government-insured mortgage loans. Government-guaranteed or government-insured loans are not placed on nonaccrual status.

Mortgage Loans — Conventional Mortgage Loans. The Bank's conventional mortgage loans have also been acquired through the MPF program. The allowance for losses on conventional mortgage loans is determined by an analysis that includes consideration of various data such as past performance, current performance, loan portfolio characteristics, collateral-related characteristics, and prevailing economic conditions. The allowance for losses on conventional mortgage loans also factors in the credit enhancement under the MPF program. Any incurred losses that are expected to be recovered from the credit enhancements are not reserved as part of the Bank's allowance for loan losses.

The Bank places a conventional mortgage loan on nonaccrual status when the collection of the contractual principal or interest is 90 days or more past due. When a mortgage loan is placed on nonaccrual status, accrued but uncollected interest is reversed against interest income. The Bank records cash payments received on nonaccrual loans first as interest income until it recovers all interest, and then as a reduction of principal. A loan on nonaccrual status is restored to accrual status when none of its contractual principal and interest is due and unpaid, and the Bank expects repayment of the remaining contractual interest and principal.

A loan is considered impaired when, based on current information and events, it is probable that the Bank will be unable to collect all amounts due according to the contractual terms of the loan agreement. Collateral-dependent loans that are on nonaccrual status are measured for impairment based on the fair value of the underlying property less estimated selling costs. Loans are considered collateral-dependent if repayment is expected to be provided solely by the sale of the underlying property; that is, there is no other available and reliable source of repayment. A collateral-dependent loan is impaired if the fair value of the underlying collateral is insufficient to recover the unpaid principal and interest on the loan. Interest income on impaired loans is recognized in the same manner as it is for nonaccrual loans noted above.

The Bank evaluates whether to record a charge-off on a conventional mortgage loan when the loan becomes 180 days or more past due or upon the occurrence of a confirming event, whichever occurs first. Confirming events include, but are not limited to, the occurrence of foreclosure or notification of a claim against any of the credit enhancements. A charge-off is recorded if the recorded investment in the loan will not be recovered.

The Bank considers the key credit quality indicator for conventional mortgage loans to be the payment status of each loan. The table below summarizes the recorded investment by payment status for mortgage loans at March 31, 2019 and December 31, 2018 (dollars in thousands).

	March 31, 2019			December 31, 2018		
	Conventional Loans	Government-Guaranteed/ Insured Loans	Total	Conventional Loans	Government-Guaranteed/ Insured Loans	Total
Mortgage loans:						
30-59 days delinquent	$ 13,101	$ 634	$ 13,735	$ 11,241	$ 614	$ 11,855
60-89 days delinquent	2,645	17	2,662	1,816	135	1,951
90 days or more delinquent	2,359	213	2,572	1,410	156	1,566
Total past due	18,105	864	18,969	14,467	905	15,372
Total current loans	2,575,279	14,544	2,589,823	2,166,660	15,139	2,181,799
Total mortgage loans	$ 2,593,384	$ 15,408	$ 2,608,792	$2,181,127	$ 16,044	$ 2,197,171
Other delinquency statistics:						
In process of foreclosure [(1)]	$ 1,044	$ —	$ 1,044	$ 481	$ 77	$ 558
Serious delinquency rate [(2)]	0.1%	1.4%	0.1%	0.1%	1.0%	0.1%
Past due 90 days or more and still accruing interest [(3)]	$ —	$ 213	$ 213	$ —	$ 156	$ 156
Nonaccrual loans	$ 2,359	$ —	$ 2,359	$ 1,410	$ —	$ 1,410
Troubled debt restructurings	$ —	$ —	$ —	$ —	$ —	$ —

(1) Includes loans where the decision of foreclosure or similar alternative such as pursuit of deed-in-lieu has been made.

(2) Loans that are 90 days or more past due or in the process of foreclosure expressed as a percentage of the loan portfolio.

(3) Only government-guaranteed/insured mortgage loans continue to accrue interest after they become 90 days or more past due.

At March 31, 2019 and December 31, 2018, the Bank's other assets included $27,000 and $7,000, respectively, of real estate owned.

Mortgage loans are considered impaired when, based upon current information and events, it is probable that the Bank will be unable to collect all principal and interest amounts due according to the contractual terms of the mortgage loan agreement. Each nonaccrual mortgage loan and each troubled debt restructuring is specifically reviewed for impairment. At March 31, 2019 and December 31, 2018, the Bank did not have any troubled debt restructurings related to mortgage loans. At these dates, the estimated value of the collateral securing each nonaccrual loan, plus the estimated amount that can be recovered through credit enhancements and mortgage insurance, if any, exceeded the outstanding loan amount. Therefore, no specific reserve was established for any of the nonaccrual mortgage loans. The remaining conventional mortgage loans were evaluated for impairment on a pool basis. Based upon the current and past performance of these loans and current economic conditions, the Bank determined that an allowance for loan losses of $611,000 was adequate to reserve for credit losses in its conventional mortgage loan portfolio at March 31, 2019.

The following table presents the activity in the allowance for credit losses on conventional mortgage loans held for portfolio during the three months ended March 31, 2019 and 2018 (in thousands):

	Three Months Ended March 31,	
	2019	2018
Balance, beginning of period	$ 493	$ 271
Provision for credit losses	118	—
Balance, end of period	$ 611	$ 271

The following table presents information regarding the balances of the Bank's conventional mortgage loans held for portfolio that were individually or collectively evaluated for impairment as well as information regarding the ending balance of the allowance for credit losses as of March 31, 2019 and December 31, 2018 (in thousands).

	March 31, 2019	December 31, 2018
Ending balance of allowance for credit losses related to loans collectively evaluated for impairment	$ 611	$ 493
Recorded investment		
Individually evaluated for impairment	$ 2,359	$ 1,410
Collectively evaluated for impairment	2,591,025	2,179,717
	$ 2,593,384	$ 2,181,127

Note 9—Consolidated Obligations

Consolidated obligations are the joint and several obligations of the FHLBanks and consist of consolidated obligation bonds and discount notes. Consolidated obligations are backed only by the financial resources of the 11 FHLBanks. Consolidated obligations are not obligations of, nor are they guaranteed by, the U.S. government. The FHLBanks issue consolidated obligations through the Office of Finance as their agent. In connection with each debt issuance, one or more of the FHLBanks specifies the amount of debt it wants issued on its behalf; the Bank receives the proceeds of only the debt issued on its behalf and records on its statements of condition only that portion of the consolidated obligations for which it has received the proceeds. Consolidated obligation bonds are issued primarily to raise intermediate- and long-term funds for the FHLBanks and are not subject to any statutory or regulatory limits on maturity. Consolidated obligation discount notes are issued to raise short-term funds and have maturities of one year or less. These notes are issued at a price that is less than their face amount and are redeemed at par value when they mature. For additional information regarding the FHLBanks' joint and several liability on consolidated obligations, see Note 16.

The par amounts of the 11 FHLBanks' outstanding consolidated obligations, including consolidated obligations held as investments by other FHLBanks, were approximately $1.011 trillion and $1.032 trillion at March 31, 2019 and December 31, 2018, respectively. The Bank was the primary obligor on $64.3 billion and $68.0 billion (at par value), respectively, of these consolidated obligations.

Interest Rate Payment Terms. The following table summarizes the Bank's consolidated obligation bonds outstanding by interest rate payment terms at March 31, 2019 and December 31, 2018 (in thousands, at par value).

	March 31, 2019	December 31, 2018
Fixed-rate	$ 17,595,925	$ 15,606,555
Variable-rate	5,248,000	10,029,850
Step-up	3,697,500	6,202,500
Step-down	275,000	275,000
Total par value	$ 26,816,425	$ 32,113,905

At March 31, 2019 and December 31, 2018, 80 percent and 90 percent, respectively, of the Bank's fixed-rate consolidated obligation bonds were swapped to a variable rate.

Redemption Terms. The following is a summary of the Bank's consolidated obligation bonds outstanding at March 31, 2019 and December 31, 2018, by contractual maturity (dollars in thousands):

	March 31, 2019		December 31, 2018	
Contractual Maturity	Amount	Weighted Average Interest Rate	Amount	Weighted Average Interest Rate
Due in one year or less	$ 10,497,705	2.14%	$ 14,798,025	2.11%
Due after one year through two years	4,335,200	2.11	4,943,910	2.07
Due after two years through three years	4,228,190	2.24	4,093,605	2.12
Due after three years through four years	2,958,850	2.31	2,686,995	2.24
Due after four years through five years	1,688,060	2.81	2,641,210	2.92
Due after five years	3,108,420	2.62	2,950,160	2.58
Total par value	26,816,425	2.27%	32,113,905	2.22%
Premiums	1,914		2,241	
Discounts	(1,031)		(1,295)	
Debt issuance costs	(3,561)		(3,295)	
Hedging adjustments	(67,386)		(179,627)	
Total	$ 26,746,361		$ 31,931,929	

At March 31, 2019 and December 31, 2018, the Bank's consolidated obligation bonds outstanding included the following (in thousands, at par value):

	March 31, 2019	December 31, 2018
Non-callable bonds	$ 17,710,425	$ 20,662,505
Callable bonds	9,106,000	11,451,400
Total par value	$ 26,816,425	$ 32,113,905

The following table summarizes the Bank's consolidated obligation bonds outstanding at March 31, 2019 and December 31, 2018, by the earlier of contractual maturity or next possible call date (in thousands, at par value):

Contractual Maturity or Next Call Date	March 31, 2019	December 31, 2018
Due in one year or less	$ 18,996,705	$ 23,532,425
Due after one year through two years	3,320,200	3,804,410
Due after two years through three years	1,636,190	1,931,605
Due after three years through four years	1,682,850	1,618,095
Due after four years through five years	859,060	971,210
Due after five years	321,420	256,160
Total par value	$ 26,816,425	$ 32,113,905

Discount Notes. At March 31, 2019 and December 31, 2018, the Bank's consolidated obligation discount notes, all of which are due within one year, were as follows (dollars in thousands):

	Book Value	Par Value	Weighted Average Implied Interest Rate
March 31, 2019	$ 37,369,065	$ 37,533,190	2.39%
December 31, 2018	$ 35,731,713	$ 35,882,027	2.30%

Note 10—Affordable Housing Program ("AHP")

The following table summarizes the changes in the Bank's AHP liability during the three months ended March 31, 2019 and 2018 (in thousands):

	Three Months Ended March 31,	
	2019	2018
Balance, beginning of period	$ 44,358	$ 31,246
AHP assessment	6,494	4,640
Grants funded, net of recaptured amounts	(5,116)	(3,712)
Balance, end of period	$ 45,736	$ 32,174

Note 11—Assets and Liabilities Subject to Offsetting

The Bank has derivatives and securities purchased under agreements to resell that are subject to enforceable master netting agreements or similar arrangements. For purposes of reporting derivative assets and derivative liabilities, the Bank offsets the fair value amounts recognized for derivative instruments (including the right to reclaim cash collateral and the obligation to return cash collateral) where a legally enforceable right of setoff exists. The Bank did not have any liabilities that were eligible to offset its securities purchased under agreements to resell (i.e., securities sold under agreements to repurchase) as of March 31, 2019 or December 31, 2018.

The Bank's derivative transactions are executed either bilaterally or, if required, cleared through a third-party central clearinghouse. The Bank has entered into master agreements with each of its bilateral derivative counterparties that provide for the netting of all transactions with each of these counterparties. Under its master agreements with its non-member bilateral derivative counterparties, collateral is delivered (or returned) daily when certain thresholds (ranging from $50,000 to $500,000) are met. The Bank offsets the fair value amounts recognized for bilaterally traded derivatives executed with the same counterparty, including any cash collateral remitted to or received from the counterparty. When entering into derivative transactions with its members, the Bank requires the member to post eligible collateral in an amount equal to the sum of the net market value of the member's derivative transactions with the Bank (if the value is positive to the Bank) plus a percentage of the notional amount of any interest rate swaps, with market values determined on at least a monthly basis. Eligible collateral for derivative transactions with members consists of collateral that is eligible to secure advances and other obligations under the member's Advances and Security Agreement with the Bank. The Bank is not required to pledge collateral to its members to secure derivative positions.

For cleared derivatives, all transactions with each clearing member of each clearinghouse are netted pursuant to legally enforceable setoff rights. Cleared derivatives are subject to initial and variation margin requirements established by the clearinghouse and its clearing members. Effective January 3, 2017, one of the Bank's two clearinghouse counterparties made certain amendments to its rulebook that changed the legal characterization of variation margin payments on cleared derivatives to settlements on the contracts. Effective January 16, 2018, the Bank's other clearinghouse counterparty made similar amendments to its rulebook. Prior to the dates upon which these amendments became effective, the variation margin payments were in each case characterized as collateral pledged to secure outstanding credit exposure on the derivative contracts. Initial and variation margin (regardless of whether it is characterized as collateral or settlements) is typically delivered/paid (or returned/received) daily and is not subject to any maximum unsecured thresholds. The Bank offsets the fair value amounts recognized for cleared derivatives transacted with each clearing member of each clearinghouse (which fair value amounts include variation margin paid or received on daily settled contracts) and any cash collateral pledged or received.

The following table presents derivative instruments and securities purchased under agreements to resell with the legal right of offset, including the related collateral received from or pledged to counterparties as of March 31, 2019 and December 31, 2018 (in thousands). For daily settled derivative contracts, the variation margin payments/receipts are included in the gross amounts of derivative assets and liabilities.

	Gross Amounts of Recognized Financial Instruments	Gross Amounts Offset in the Statement of Condition	Net Amounts Presented in the Statement of Condition	Collateral Not Offset in the Statement of Condition [1]	Net Unsecured Amount
March 31, 2019					
Assets					
Derivatives					
Bilateral derivatives	$ 25,345	$ (17,070)	$ 8,275	$ (4,185) [2]	$ 4,090
Cleared derivatives	48,099	(4,046)	44,053	—	44,053
Total derivatives	73,444	(21,116)	52,328	(4,185)	48,143
Securities purchased under agreements to resell	5,515,000	—	5,515,000	(5,515,000)	—
Total assets	$ 5,588,444	$ (21,116)	$ 5,567,328	$ (5,519,185)	$ 48,143
Liabilities					
Derivatives					
Bilateral derivatives	$ 148,753	$ (134,076)	$ 14,677	$ —	$ 14,677
Cleared derivatives	9,466	(4,053)	5,413	(5,413) [3]	—
Total liabilities	$ 158,219	$ (138,129)	$ 20,090	$ (5,413)	$ 14,677
December 31, 2018					
Assets					
Derivatives					
Bilateral derivatives	$ 35,923	$ (26,074)	$ 9,849	$ (3,380) [2]	$ 6,469
Cleared derivatives	7,773	(7,744)	29	—	29
Total derivatives	43,696	(33,818)	9,878	(3,380)	6,498
Securities purchased under agreements to resell	6,215,000	—	6,215,000	(6,215,000)	—
Total assets	$ 6,258,696	$ (33,818)	$ 6,224,878	$ (6,218,380)	$ 6,498
Liabilities					
Derivatives					
Bilateral derivatives	$ 189,654	$ (181,022)	$ 8,632	$ —	$ 8,632
Cleared derivatives	45,025	(7,666)	37,359	(37,359) [4]	—
Total liabilities	$ 234,679	$ (188,688)	$ 45,991	$ (37,359)	$ 8,632

(1) Any overcollateralization or any excess variation margin associated with daily settled contracts at an individual clearinghouse/clearing member or bilateral counterparty level is not included in the determination of the net unsecured amount.

(2) Consists of collateral pledged by member counterparties.

(3) Consists of securities pledged by the Bank. In addition to the amount needed to secure the counterparties' exposure to the Bank, the Bank had pledged other securities with an aggregate fair value of $737,236,000 at March 31, 2019 to further secure its cleared derivatives, which is a result of the initial margin requirements imposed upon the Bank.

(4) Consists of securities pledged by the Bank. In addition to the amount needed to secure the counterparties' exposure to the Bank, the Bank had pledged other securities with an aggregate fair value of $675,188,000 at December 31, 2018 to further secure its cleared derivatives, which is a result of the initial margin requirements imposed upon the Bank.

Note 12—Derivatives and Hedging Activities

Hedging Activities. As a financial intermediary, the Bank is exposed to interest rate risk. This risk arises from a variety of financial instruments that the Bank enters into on a regular basis in the normal course of its business. The Bank enters into interest rate swap, swaption, cap and forward rate agreements (collectively, interest rate exchange agreements) to manage its exposure to changes in interest rates. The Bank may use these instruments to adjust the effective maturity, repricing frequency, or option characteristics of financial instruments to achieve risk management objectives. In addition, the Bank may use these instruments to hedge the variable cash flows associated with forecasted transactions. The Bank has not entered into any credit default swaps or foreign exchange-related derivatives and, as of March 31, 2019, it was not a party to any forward rate agreements.

The Bank uses interest rate exchange agreements in three ways: (1) by designating the agreement as a fair value hedge of a specific financial instrument or firm commitment; (2) by designating the agreement as a cash flow hedge of a forecasted transaction; or (3) by designating the agreement as a hedge of some other defined risk (referred to as an “economic hedge”). For example, the Bank uses interest rate exchange agreements in its overall interest rate risk management activities to adjust the interest rate sensitivity of consolidated obligations to approximate more closely the interest rate sensitivity of its assets (both advances and investments), and/or to adjust the interest rate sensitivity of advances or investments to approximate more closely the interest rate sensitivity of its liabilities. In addition to using interest rate exchange agreements to manage mismatches between the coupon features of its assets and liabilities, the Bank also uses interest rate exchange agreements to, among other things, manage embedded options in assets and liabilities, to preserve the market value of existing assets and liabilities, to hedge the duration risk of prepayable instruments, to hedge the variable cash flows associated with forecasted transactions, to offset interest rate exchange agreements entered into with members (the Bank serves as an intermediary in these transactions), and to reduce funding costs.

The Bank, consistent with Finance Agency regulations, enters into interest rate exchange agreements only to reduce potential market risk exposures inherent in otherwise unhedged assets and liabilities or anticipated transactions, or to act as an intermediary between its members and the Bank’s non-member derivative counterparties. The Bank is not a derivatives dealer and it does not trade derivatives for short-term profit.

At inception, the Bank formally documents the relationships between derivatives designated as hedging instruments and their hedged items, its risk management objectives and strategies for undertaking the hedge transactions, and its method for assessing the effectiveness of the hedging relationships. For fair value hedges, this process includes linking the derivatives to: (1) specific assets and liabilities on the statements of condition or (2) firm commitments. For cash flow hedges, this process includes linking the derivatives to forecasted transactions. The Bank also formally assesses (both at the inception of the hedging relationship and on a monthly basis thereafter) whether the derivatives that are used in hedging transactions have been effective in offsetting changes in the fair value of hedged items or the cash flows associated with forecasted transactions and whether those derivatives may be expected to remain effective in future periods. The Bank uses regression analyses to assess the effectiveness of its hedges.

Investment Securities and Mortgage Loans Held for Portfolio — The Bank has invested in agency and non-agency MBS and residential mortgage loans. The interest rate and prepayment risk associated with these investments is managed through consolidated obligations and/or derivatives. The Bank may manage prepayment and duration risk presented by some of these investments with either callable and/or non-callable consolidated obligations and/or interest rate exchange agreements, including interest rate swaps, swaptions and caps.

A substantial portion of the Bank’s held-to-maturity securities are variable-rate MBS that include caps that would limit the variable-rate coupons if short-term interest rates rise dramatically. To hedge a portion of the potential cap risk embedded in these securities, the Bank has entered into interest rate cap agreements. These derivatives are treated as economic hedges.

All of the Bank's available-for-sale securities are fixed-rate agency and other highly rated debentures and agency commercial MBS. To hedge the interest rate risk associated with these fixed-rate investment securities, the Bank has entered into fixed-for-floating interest rate exchange agreements, which are designated as fair value hedges.

Approximately one-half of the Bank's trading securities are fixed-rate U.S. Treasury Notes that were acquired with short remaining terms to maturity. To convert some of these fixed-rate investment securities to a short-term floating rate, the Bank entered into fixed-for-floating interest rate exchange agreements that are indexed to the overnight index swap ("OIS") rate. These derivatives are treated as economic hedges.

The interest rate swaps and swaptions that are used by the Bank to hedge the risks associated with its mortgage loan portfolio are treated as economic hedges.

Advances — The Bank issues both fixed-rate and variable-rate advances. When appropriate, the Bank uses interest rate exchange agreements to adjust the interest rate sensitivity of its fixed-rate advances to approximate more closely the interest rate

sensitivity of its liabilities. With issuances of putable advances, the Bank purchases from the member a put option that enables the Bank to terminate a fixed-rate advance on specified future dates. This embedded option is clearly and closely related to the host advance contract. The Bank typically hedges a putable advance by entering into a cancelable interest rate exchange agreement where the Bank pays a fixed-rate coupon and receives a variable-rate coupon, and sells an option to cancel the swap to the swap counterparty. This type of hedge is treated as a fair value hedge. The swap counterparty can cancel the interest rate exchange agreement on the call date and the Bank can cancel the putable advance and offer, subject to certain conditions, replacement funding at prevailing market rates.

A small portion of the Bank's variable-rate advances are subject to interest rate caps that would limit the variable-rate coupons if short-term interest rates rise above a predetermined level. To hedge the cap risk embedded in these advances, the Bank generally enters into interest rate cap agreements. This type of hedge is treated as a fair value hedge.

The Bank may hedge a firm commitment for a forward-starting advance through the use of an interest rate swap. In this case, the swap will function as the hedging instrument for both the firm commitment and the subsequent advance. The carrying value of the firm commitment will be included in the basis of the advance at the time the commitment is terminated and the advance is issued. The basis adjustment will then be amortized into interest income over the life of the advance.

The Bank enters into optional advance commitments with its members. In an optional advance commitment, the Bank sells an option to the member that provides the member with the right to increase the amount of an existing advance at a specified fixed rate and term on a specified future date, provided the member has satisfied all of the customary requirements for such advance. This embedded option is clearly and closely related to the host contract. The Bank may hedge an optional advance commitment through the use of an interest rate swaption. In this case, the swaption will function as the hedging instrument for both the commitment and, if the option is exercised by the member, the subsequent advance. These swaptions are treated as fair value hedges.

Consolidated Obligations — While consolidated obligations are the joint and several obligations of the FHLBanks, each FHLBank is the primary obligor for the consolidated obligations it has issued or assumed from another FHLBank. The Bank generally enters into derivative contracts to hedge the interest rate risk associated with its specific debt issuances.

To manage the interest rate risk of certain of its consolidated obligations, the Bank will match the cash outflow on a consolidated obligation with the cash inflow of an interest rate exchange agreement. With issuances of fixed-rate consolidated obligation bonds, the Bank typically enters into a matching interest rate exchange agreement in which the counterparty pays fixed cash flows to the Bank that are designed to mirror in timing and amount the cash outflows the Bank pays on the consolidated obligation. In this transaction, the Bank pays a variable cash flow that closely matches the interest payments it receives on short-term or variable-rate assets, typically one-month or three-month LIBOR. These transactions are treated as fair value hedges. On occasion, the Bank may enter into fixed-for-floating interest rate exchange agreements to hedge the interest rate risk associated with certain of its consolidated obligation discount notes. The derivatives associated with the Bank's fair value discount note hedging are treated as economic hedges. The Bank may also use interest rate exchange agreements to convert variable-rate consolidated obligation bonds from one index rate (e.g., the daily effective federal funds rate) to another index rate (e.g., one-month or three-month LIBOR). These transactions are treated as economic hedges.

The Bank has not issued consolidated obligations denominated in currencies other than U.S. dollars.

Forecasted Issuances of Consolidated Obligations — The Bank uses derivatives to hedge the variability of cash flows over a specified period of time as a result of the forecasted issuances and maturities of short-term, fixed-rate instruments, such as three-month consolidated obligation discount notes. Although each short-term consolidated obligation discount note has a fixed rate of interest, a portfolio of rolling consolidated obligation discount notes effectively has a variable interest rate. The variable cash flows associated with these liabilities are converted to fixed-rate cash flows by entering into receive-variable, pay-fixed interest rate swaps. The maturity dates of the cash flow streams are closely matched to the interest rate reset dates of the derivatives. These derivatives are treated as cash flow hedges.

Balance Sheet Management — From time to time, the Bank may enter into interest rate basis swaps to reduce its exposure to changing spreads between one-month and three-month LIBOR. In addition, to reduce its exposure to reset risk, the Bank may occasionally enter into forward rate agreements. These derivatives are treated as economic hedges.

Intermediation — The Bank offers interest rate swaps, caps and floors to its members to assist them in meeting their hedging needs. In these transactions, the Bank acts as an intermediary for its members by entering into an interest rate exchange agreement with a member and then entering into an offsetting interest rate exchange agreement with one of the Bank's approved derivative counterparties. All interest rate exchange agreements related to the Bank's intermediary activities with its members are accounted for as economic hedges.

Other — From time to time, the Bank may enter into derivatives to hedge risks to its earnings that are not directly linked to specific assets, liabilities or forecasted transactions. These derivatives are treated as economic hedges.

Accounting for Derivatives and Hedging Activities. The Bank accounts for derivatives and hedging activities in accordance with the guidance in Topic 815 of the FASB's Accounting Standards Codification ("ASC") entitled "*Derivatives and Hedging"* ("ASC 815"). All derivatives are recognized on the statements of condition at their fair values, including accrued interest receivable and payable. For purposes of reporting derivative assets and derivative liabilities, the Bank offsets the fair value amounts recognized for derivative instruments (including the right to reclaim cash collateral and the obligation to return cash collateral) where a legally enforceable right of setoff exists.

Changes in the fair value of a derivative that is effective as — and that is designated and qualifies as — a fair value hedge, along with changes in the fair value of the hedged asset or liability that are attributable to the hedged risk (including changes that reflect gains or losses on firm commitments), are recorded in current period earnings. The application of hedge accounting generally requires the Bank to evaluate the effectiveness of the fair value hedging relationships on an ongoing basis and to calculate the changes in fair value of the derivatives and related hedged items independently. This is commonly known as the "long-haul" method of hedge accounting. Transactions that meet more stringent criteria qualify for the "shortcut" method of hedge accounting in which an assumption can be made that the change in fair value of a hedged item exactly offsets the change in value of the related derivative. The Bank considers hedges of committed advances to be eligible for the shortcut method of accounting as long as the settlement of the committed advance occurs within the shortest period possible for that type of instrument based on market settlement conventions, the fair value of the swap is zero at the inception of the hedging relationship, and the transaction meets all of the other criteria for shortcut accounting specified in ASC 815. The Bank has defined the market settlement convention to be five business days or less for advances.

As discussed in Note 2, effective January 1, 2019, the Bank adopted ASU 2017-12, which, among other things, impacts the presentation of gains/losses on derivatives and hedging activities for qualifying hedges.

Beginning January 1, 2019, any fair value hedge ineffectiveness (which represents the amount by which the change in the fair value of the derivative differs from the change in the fair value of the hedged item attributable to the hedged risk) and the net interest income/expense associated with that derivative are recorded in the same line item as the earnings effect of the hedged item (that is, interest income on advances, interest income on available-for-sale securities or interest expense on consolidated obligation bonds, as appropriate). Prior to January 1, 2019, any fair value hedge ineffectiveness was recorded in other income (loss) as "net gains (losses) on derivatives and hedging activities" while the net interest income/expense associated with the derivative was recorded as a component of net interest income.

On and after January 1, 2019, all changes in the fair value of a derivative that is designated and qualifies as a cash flow hedge are recorded in AOCI until earnings are affected by the variability of the cash flows of the hedged transaction, at which time these amounts are reclassified from AOCI to the income statement line where the earnings effect of the hedged item is reported (e.g., interest expense on consolidated obligation discount notes). Prior to January 1, 2019, changes in the fair value of a derivative that was designated and qualified as a cash flow hedge, to the extent that the hedge was effective, were recorded in AOCI until earnings were affected by the variability of the cash flows of the hedged transaction. Any ineffective portion of a cash flow hedge (which represented the amount by which the change in the fair value of the derivative differed from the change in fair value of a hypothetical derivative having terms that match identically the critical terms of the hedged forecasted transaction) was recognized in other income (loss) as "net gains (losses) on derivatives and hedging activities."

An economic hedge is defined as a derivative hedging specific or non-specific assets or liabilities that does not qualify or was not designated for hedge accounting under ASC 815, but is an acceptable hedging strategy under the Bank's Enterprise Market Risk Management Policy. These hedging strategies also comply with Finance Agency regulatory requirements prohibiting speculative derivative transactions. An economic hedge by definition introduces the potential for earnings variability as changes in the fair value of a derivative designated as an economic hedge are recorded in current period earnings with no offsetting fair value adjustment to an asset or liability. Both the net interest income/expense and the fair value changes associated with derivatives in economic hedging relationships are recorded in other income (loss) as "net gains (losses) on derivatives and hedging activities."

The Bank records the changes in fair value of all derivatives (and, in the case of fair value hedges, the hedged items) beginning on the trade date.

Cash flows associated with all derivatives are reported as cash flows from operating activities in the statements of cash flows, unless the derivative contains an other-than-insignificant financing element, in which case its cash flows are reported as cash flows from financing activities.

The Bank may issue debt, make advances, or purchase financial instruments in which a derivative instrument is "embedded" and the financial instrument that embodies the embedded derivative instrument is not remeasured at fair value with changes in fair value reported in earnings as they occur. Upon execution of these transactions, the Bank assesses whether the economic characteristics of the embedded derivative are clearly and closely related to the economic characteristics of the remaining component of the financial instrument (i.e., the host contract) and whether a separate, non-embedded instrument with the same terms as the embedded instrument would meet the definition of a derivative instrument. When it is determined that (1) the

embedded derivative possesses economic characteristics that are not clearly and closely related to the economic characteristics of the host contract and (2) a separate, stand-alone instrument with the same terms would qualify as a derivative instrument, the embedded derivative is separated from the host contract, carried at fair value, and designated as either (1) a hedging instrument in a fair value hedge or (2) a stand-alone derivative instrument pursuant to an economic hedge. However, if the entire contract were to be measured at fair value, with changes in fair value reported in current earnings, or if the Bank could not reliably identify and measure the embedded derivative for purposes of separating that derivative from its host contract, the entire contract would be carried on the statement of condition at fair value and no portion of the contract would be separately accounted for as a derivative.

The Bank discontinues hedge accounting prospectively when: (1) management determines that the derivative is no longer effective in offsetting changes in the fair value or cash flows of a hedged item; (2) the derivative and/or the hedged item expires or is sold, terminated, or exercised; (3) it is no longer probable that a forecasted transaction will occur within the originally specified time frame; (4) a hedged firm commitment no longer meets the definition of a firm commitment; or (5) management determines that designating the derivative as a hedging instrument in accordance with ASC 815 is no longer appropriate.

In all cases in which hedge accounting is discontinued and the derivative remains outstanding, the Bank will carry the derivative at its fair value on the statement of condition, recognizing any additional changes in the fair value of the derivative in current period earnings as a component of "net gains (losses) on derivatives and hedging activities."

When fair value hedge accounting for a specific derivative is discontinued due to the Bank's determination that such derivative no longer qualifies for hedge accounting treatment or because the derivative is terminated, the Bank will cease to adjust the hedged asset or liability for changes in fair value and amortize the cumulative basis adjustment on the formerly hedged item into earnings over its remaining term using the level-yield method. The amortization is recorded in the same line item as the earnings effect of the formerly hedged item.

When hedge accounting is discontinued because the hedged item no longer meets the definition of a firm commitment, the Bank continues to carry the derivative on the statement of condition at its fair value, removing from the statement of condition any asset or liability that was recorded to recognize the firm commitment and recording it as a gain or loss in current period earnings.

When cash flow hedge accounting for a specific derivative is discontinued due to the Bank's determination that such derivative no longer qualifies for hedge accounting treatment or because the derivative is terminated, the Bank will reclassify the cumulative fair value gains or losses recorded in AOCI as of the discontinuance date from AOCI into earnings when earnings are affected by the original forecasted transaction. If the Bank expects at any time that continued reporting of a net loss in AOCI would lead to recognizing a net loss on the combination of the hedging instrument and hedged transaction in one or more future periods, the amount that is not expected to be recovered is immediately reclassified to earnings. These items are recorded in the same income statement line where the earnings effect of the hedged item is reported.

In cases where the cash flow hedge is discontinued because the forecasted transaction is no longer probable (i.e., the forecasted transaction will not occur in the originally expected period or within an additional two-month period of time thereafter), any fair value gains or losses recorded in AOCI as of the determination date are immediately reclassified to earnings as a component of "net gains (losses) on derivatives and hedging activities."

Impact of Derivatives and Hedging Activities. The following table summarizes the notional balances and estimated fair values of the Bank's outstanding derivatives (inclusive of variation margin on daily settled contracts) and the amounts offset against those values in the statement of condition at March 31, 2019 and December 31, 2018 (in thousands).

	March 31, 2019			December 31, 2018		
		Estimated Fair Value			Estimated Fair Value	
	Notional Amount of Derivatives	Derivative Assets	Derivative Liabilities	Notional Amount of Derivatives	Derivative Assets	Derivative Liabilities
Derivatives designated as hedging instruments under ASC 815						
Interest rate swaps						
Advances	$ 7,437,559	$ 6,630	$ 54,700	$ 7,171,033	$ 4,273	$ 36,521
Available-for-sale securities	15,941,072	41,393	15,717	15,981,523	8,501	55,202
Consolidated obligation bonds	17,154,740	15,653	75,309	19,824,055	21,112	130,806
Consolidated obligation discount notes	913,000	2,817	—	865,000	—	2,480
Total derivatives designated as hedging instruments under ASC 815	41,446,371	66,493	145,726	43,841,611	33,886	225,009
Derivatives not designated as hedging instruments under ASC 815						
Interest rate swaps						
Advances	—	—	—	2,500	—	—
Available-for-sale securities	3,156	6	—	3,156	—	10
Mortgage loans held for portfolio	160,600	125	755	150,600	158	198
Trading securities	1,163,000	94	—	1,713,000	5	39
Intermediary transactions	1,177,771	4,309	9,941	1,228,345	3,742	6,245
Other	425,000	—	787	425,000	1,425	—
Interest rate swaptions related to mortgage loans held for portfolio	215,000	1,269	—	185,000	1,234	—
Mortgage delivery commitments	23,114	137	—	11,687	62	—
Interest rate caps and floors						
Held-to-maturity securities	750,000	1	—	1,000,000	6	—
Intermediary transactions	363,000	1,010	1,010	541,000	3,178	3,178
Total derivatives not designated as hedging instruments under ASC 815	4,280,641	6,951	12,493	5,260,288	9,810	9,670
Total derivatives before collateral and netting adjustments	$ 45,727,012	73,444	158,219	$ 49,101,899	43,696	234,679
Cash collateral and related accrued interest		(9,487)	(126,492)		(9,287)	(164,237)
Cash received or remitted in excess of variation margin requirements		—	(8)		(93)	(13)
Netting adjustments		(11,629)	(11,629)		(24,438)	(24,438)
Total collateral and netting adjustments[1]		(21,116)	(138,129)		(33,818)	(188,688)
Net derivative balances reported in statements of condition		$ 52,328	$ 20,090		$ 9,878	$ 45,991

(1) Amounts represent the effect of legally enforceable master netting agreements or other legally enforceable arrangements between the Bank and its derivative counterparties that allow the Bank to offset positive and negative positions as well as any cash collateral held or placed with those same counterparties.

The following table presents the components of net gains (losses) on qualifying fair value and cash flow hedging relationships for the three months ended March 31, 2019 and 2018 (in thousands).

	Interest Income (Expense)					
	Advances	**Available-for-Sale Securities**	**Consolidated Obligation Bonds**	**Consolidated Obligation Discount Notes**	**Net Gains (Losses) on Derivatives and Hedging Activities**	**Other Comprehensive Income (Loss)**
Three Months Ended March 31, 2019						
Total amount of the financial statement line item	$ 237,864	$ 119,008	$ (190,768)	$ (196,251)	$ 8,766	$ 31,201
Gains (losses) on fair value hedging relationships included in the financial statement line item						
Interest rate contracts						
Derivatives	$ (35,083)	$ (283,861)	$ 93,225	$ —	$ —	$ —
Hedged items	48,096	298,786	(112,240)	—	—	—
Net gains (losses) on fair value hedging relationships	$ 13,013	$ 14,925	$ (19,015)	$ —	$ —	$ —
Gains (losses) on cash flow hedging relationships included in the financial statement line item						
Interest rate contracts						
Reclassified from AOCI into interest expense	$ —	$ —	$ —	$ 807	$ —	$ (807)
Recognized in OCI	—	—	—	—	—	(20,390)
Net gains (losses) on cash flow hedging relationships	$ —	$ —	$ —	$ 807	$ —	$ (21,197)
Three Months Ended March 31, 2018 (1)						
Total amount of the financial statement line item	$ 155,345	$ 79,958	$ (128,145)	$ (94,536)	$ 1,823	$ 55,301
Gains (losses) on fair value hedging relationships included in the financial statement line item						
Interest rate contracts						
Derivatives	$ (1,698)	$ (11,682)	$ 1,765	$ —	$ 232,203	$ —
Hedged items (2)	—	—	—	—	(220,298)	—
Net gains (losses) on fair value hedging relationships	$ (1,698)	$ (11,682)	$ 1,765	$ —	$ 11,905	$ —
Gains (losses) on cash flow hedging relationships included in the financial statement line item						
Interest rate contracts						
Reclassified from AOCI into interest expense	$ —	$ —	$ —	$ (310)	$ —	$ 310
Recognized in OCI	—	—	—	—	—	13,840
Net gains (losses) on cash flow hedging relationships	$ —	$ —	$ —	$ (310)	$ —	$ 14,150

(1) Prior period amounts have not been reclassified to conform to the new hedge accounting presentation requirements which became effective on January 1, 2019.

(2) Excludes amortization/accretion on closed fair value relationships.

For the three months ended March 31, 2019 and 2018, there were no amounts reclassified from AOCI into earnings as a result of the discontinuance of cash flow hedges because the original forecasted transactions occurred by the end of the originally specified time periods or within two-month periods thereafter. At March 31, 2019, $1,940,000 of deferred net gains on derivative instruments in AOCI are expected to be reclassified to earnings during the next 12 months. At March 31, 2019, the maximum

length of time over which the Bank is hedging its exposure to the variability in future cash flows for forecasted transactions is 10 years.

The following table presents the cumulative basis adjustments on hedged items either designated or previously designated as fair value hedges and the related amortized cost of those items as of March 31, 2019.

Line Item in Statement of Condition of Hedged Item	Amortized Cost of Hedged Asset/ (Liability) [(1)]	Basis Adjustments for Active Hedging Relationships Included in Amortized Cost	Basis Adjustments for Discontinued Hedging Relationships Included in Amortized Cost	Total Fair Value Hedging Basis Adjustments [(2)]
Advances	$ 7,487,138	$ 52,353	$ 6,006	$ 58,359
Available-for-sale securities	15,965,009	(151,980)	(1,079)	(153,059)
Consolidated obligation bonds	(17,189,554)	67,969	(583)	67,386

(1) Reflects the amortized cost of hedged items in active or discontinued fair value hedging relationships, which includes fair value hedging basis adjustments.

(2) Reflects the cumulative life-to-date unamortized hedging gains (losses) on the hedged items.

The following table presents the components of net gains (losses) on derivatives and hedging activities that are reported in other income (loss) for the three months ended March 31, 2019 and 2018 (in thousands).

	Gain (Loss) Recognized in Other Income for the Three Months Ended March 31,	
	2019	2018
Derivatives and hedged items in ASC 815 fair value hedging relationships[(1)]		
Interest rate swaps	$ —	$ 11,880
Interest rate swaptions	—	25
Total net gain related to fair value hedge ineffectiveness	—	11,905
Derivatives not designated as hedging instruments under ASC 815		
Interest rate swaps	8,565	(9,028)
Net interest income (expense) on interest rate swaps	(1,023)	175
Interest rate swaptions	(229)	—
Interest rate caps and floors	85	11
Mortgage delivery commitments	1,261	51
Total net gain (loss) related to derivatives not designated as hedging instruments under ASC 815	8,659	(8,791)
Price alignment amount on variation margin for daily settled derivative contracts[(2)]	107	(1,291)
Net gains on derivatives and hedging activities reported in other income	$ 8,766	$ 1,823

(1) For the three months ended March 31, 2019, all of the effects of derivatives and associated hedged items in ASC 815 fair value hedging relationships are reported in net interest income.

(2) The amount reported for the three months ended March 31, 2019 reflects the price alignment amount on variation margin for daily settled derivative contracts that are not designated as hedging instruments under ASC 815. The price alignment amount on variation margin for daily settled derivative contracts that are designated as hedging instruments under ASC 815 is recorded in the same line item as the earnings effect of the hedged item. The amount reported for the three months ended March 31, 2018 reflects the price alignment amount on variation margin for all daily settled derivative contracts.

Credit Risk Related to Derivatives. The Bank is subject to credit risk due to the risk of nonperformance by counterparties to its derivative agreements. The Bank manages derivative counterparty credit risk through the use of master netting agreements or other similar collateral exchange arrangements, credit analysis, and adherence to the requirements set forth in the Bank's Enterprise Market Risk Management Policy, Enterprise Credit Risk Management Policy, and Finance Agency regulations. The majority of the Bank's derivative contracts have been cleared through third-party central clearinghouses (as of March 31, 2019, the notional balance of cleared transactions outstanding totaled $29.8 billion). With cleared transactions, the Bank is exposed to credit risk in the event that the clearinghouse or the clearing member fails to meet its obligations to the Bank. The remainder of the Bank's derivative contracts have been transacted bilaterally with large financial institutions under master netting agreements or, to a much lesser extent, with member institutions (as of March 31, 2019, the notional balance of outstanding transactions with non-member bilateral counterparties and member counterparties totaled $15.1 billion and $0.8 billion, respectively). Some of these institutions (or their affiliates) buy, sell, and distribute consolidated obligations.

The notional amount of the Bank's interest rate exchange agreements does not reflect its credit risk exposure, which is much less than the notional amount. The Bank's net credit risk exposure is based on the current estimated cost, on a present value basis, of replacing at current market rates all interest rate exchange agreements with individual counterparties, if those counterparties were to default, after taking into account the value of any cash and/or securities collateral held or remitted by the Bank. For counterparties with which the Bank is in a net gain position, the Bank has credit exposure when the collateral it is holding (if any) has a value less than the amount of the gain. For counterparties with which the Bank is in a net loss position, the Bank has credit exposure when it has delivered collateral with a value greater than the amount of the loss position. The net exposure on derivative agreements is presented in Note 11. Based on the netting provisions and collateral requirements associated with its derivative agreements and the creditworthiness of its derivative counterparties, Bank management does not currently anticipate any credit losses on its derivative agreements.

Note 13—Capital

At all times during the three months ended March 31, 2019, the Bank was in compliance with all applicable statutory and regulatory capital requirements. The following table summarizes the Bank’s compliance with those capital requirements as of March 31, 2019 and December 31, 2018 (dollars in thousands):

	March 31, 2019		December 31, 2018	
	Required	Actual	Required	Actual
Regulatory capital requirements:				
Risk-based capital	$ 1,044,976	$ 3,559,945	$ 1,159,443	$ 3,643,234
Total capital	$ 2,761,500	$ 3,559,945	$ 2,910,932	$ 3,643,234
Total capital-to-assets ratio	4.00%	5.16%	4.00%	5.01%
Leverage capital	$ 3,451,875	$ 5,339,918	$ 3,638,665	$ 5,464,851
Leverage capital-to-assets ratio	5.00%	7.73%	5.00%	7.51%

Members are required to maintain an investment in Class B Capital Stock equal to the sum of a membership investment requirement and an activity-based investment requirement. The membership investment requirement is currently 0.04 percent of each member’s total assets as of December 31, 2018, subject to a minimum of $1,000 and a maximum of $7,000,000. The activity-based investment requirement is currently 4.1 percent of outstanding advances, except as described below.

On September 21, 2015, the Bank announced a Board-authorized reduction in the activity-based stock investment requirement from 4.1 percent to 2.0 percent for certain advances that were funded during the period from October 21, 2015 through December 31, 2015. To be eligible for the reduced activity-based investment requirement, advances funded during this period had to have a minimum maturity of one year or greater, among other things. The standard activity-based stock investment requirement of 4.1 percent continued to apply to all other advances that were funded during the period from October 21, 2015 through December 31, 2015.

The Bank generally repurchases surplus stock quarterly. For the repurchase that occurred during the three months ended March 31, 2019, surplus stock was defined as the amount of stock held by a member shareholder in excess of 125 percent of the shareholder’s minimum investment requirement. For that repurchase, which occurred on March 26, 2019, a member shareholder's surplus stock was not repurchased if: (1) the amount of that shareholder's surplus stock was $2,500,000 or less, (2) the shareholder elected to opt-out of the repurchase, or (3) the shareholder was on restricted collateral status (subject to certain exceptions). On March 26, 2019, the Bank repurchased surplus stock totaling $202,498,000, none of which was classified as mandatorily redeemable capital stock at that date. From time to time, the Bank may modify the definition of surplus stock or the timing and/or frequency of surplus stock repurchases.

On March 26, 2019, the Bank also repurchased all excess stock held by non-member shareholders as of that date. This excess stock, all of which was classified as mandatorily redeemable capital stock at that date, totaled $1,596,000.

Note 14—Employee Retirement Plans

The Bank sponsors a retirement benefits program that includes health care and life insurance benefits for eligible retirees. Components of net periodic benefit cost (credit) related to this program for the three months ended March 31, 2019 and 2018 were as follows (in thousands):

	Three Months Ended March 31,	
	2019	2018
Service cost	$ 7	$ 5
Interest cost	5	5
Amortization of prior service cost	5	5
Amortization of net actuarial gain	(23)	(26)
Net periodic benefit credit	$ (6)	$ (11)

The Bank reports the service cost component of its net periodic postretirement benefit cost (credit) in compensation and benefits expense and the other components of net periodic postretirement benefit cost (credit) in "other, net" in the other income (loss) section of the statement of income.

Note 15—Estimated Fair Values

Fair value is defined under U.S. GAAP as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. A fair value measurement assumes that the transaction to sell the asset or transfer the liability occurs in the principal market for the asset or liability or, in the absence of a principal market, the most advantageous market for the asset or liability. U.S. GAAP establishes a fair value hierarchy and requires an entity to maximize the use of observable inputs and minimize the use of unobservable inputs when measuring fair value. U.S. GAAP also requires an entity to disclose the level within the fair value hierarchy in which each measurement is classified. The fair value hierarchy prioritizes the inputs used to measure fair value into three broad levels:

Level 1 Inputs — Quoted prices (unadjusted) in active markets for identical assets or liabilities that the reporting entity can access at the measurement date.

Level 2 Inputs — Inputs other than quoted prices included within Level 1 that are observable for the asset or liability, either directly or indirectly. If the asset or liability has a specified (contractual) term, a Level 2 input must be observable for substantially the full term of the asset or liability. Level 2 inputs include the following: (1) quoted prices for similar assets or liabilities in active markets; (2) quoted prices for identical or similar assets or liabilities in markets that are not active or in which little information is released publicly; (3) inputs other than quoted prices that are observable for the asset or liability (e.g., interest rates and yield curves that are observable at commonly quoted intervals and implied volatilities); and (4) inputs that are derived principally from or corroborated by observable market data (e.g., implied spreads).

Level 3 Inputs — Unobservable inputs for the asset or liability that are supported by little or no market activity. None of the Bank's assets or liabilities that are recorded at fair value on a recurring basis were measured using significant Level 3 inputs.

For financial instruments carried at fair value, the Bank reviews the fair value hierarchy classifications on a quarterly basis. Changes in the observability of the valuation inputs may result in a reclassification of certain assets or liabilities. Reclassifications, if any, would be reported as transfers as of the beginning of the quarter in which the changes occurred. For the three months ended March 31, 2019 and 2018, the Bank did not reclassify any fair value measurements.

The following estimated fair value amounts have been determined by the Bank using available market information and management's best judgment of appropriate valuation methods. These estimates are based on pertinent information available to the Bank as of March 31, 2019 and December 31, 2018. Although management uses its best judgment in estimating the fair value of these financial instruments, there are inherent limitations in any estimation technique or valuation methodology. For example, because an active secondary market does not exist for many of the Bank's financial instruments (e.g., advances, non-agency RMBS and mortgage loans held for portfolio), in certain cases their fair values are not subject to precise quantification or verification. Therefore, the estimated fair values presented below in the Fair Value Summary Tables may not be indicative of the amounts that would have been realized in market transactions at the reporting dates. Further, the fair values do not represent an estimate of the overall market value of the Bank as a going concern, which would take into account future business opportunities.

The valuation techniques used to measure the fair values of the Bank's financial instruments that are measured at fair value on the statement of condition are described below.

Trading and available-for-sale securities. To value its U.S. Treasury Notes and Bills classified as trading securities and all of its available-for-sale securities, the Bank obtains prices from three designated third-party pricing vendors when available.

The pricing vendors use various proprietary models to price these securities. The inputs to those models are derived from various sources including, but not limited to, benchmark yields, reported trades, dealer estimates, issuer spreads, benchmark securities, bids, offers and other market-related data. Because many securities do not trade on a daily basis, the pricing vendors use available information as applicable such as benchmark curves, benchmarking of like securities, sector groupings and matrix pricing to determine the prices for individual securities. Each pricing vendor has an established challenge process in place for all security valuations, which facilitates resolution of potentially erroneous prices identified by the Bank.

A "median" price is first established for each security using a formula that is based upon the number of prices received. If three prices are received, the middle price is the median price; if two prices are received, the average of the two prices is the median price; and if one price is received, it is the median price (and also the final price) subject to some type of validation similar to the evaluation of outliers described below. All prices that are within a specified tolerance threshold of the median price are included in the “cluster” of prices that are averaged to compute a “default” price. All prices that are outside the threshold (“outliers”) are subject to further analysis (including, but not limited to, comparison to prices provided by an additional third-party valuation service, prices for similar securities, and/or non-binding dealer estimates) to determine if an outlier is a better estimate of fair value. If an outlier (or some other price identified in the analysis) is determined to be a better estimate of fair value, then the outlier (or the other price, as appropriate) is used as the final price rather than the default price. If, on the other hand, the analysis confirms that an outlier (or outliers) is (are) in fact not representative of fair value and the default price is the best estimate, then the default price is used as the final price. In all cases, the final price is used to determine the fair value of the security.

If all prices received for a security are outside the tolerance threshold level of the median price, then there is no default price, and the final price is determined by an evaluation of all outlier prices as described above.

As of March 31, 2019 and December 31, 2018, three vendor prices were received for substantially all of the Bank’s trading and available-for-sale securities and the final prices for substantially all of those securities were computed by averaging the three prices. Based on the Bank's understanding of the pricing methods employed by the third-party pricing vendors and the relative lack of dispersion among the vendor prices (or, in those instances in which there were outliers, the Bank's additional analyses), the Bank believes its final prices result in reasonable estimates of the fair values and that the fair value measurements are classified appropriately in the fair value hierarchy.

Derivative assets/liabilities. The fair values of the Bank’s interest rate swap and swaption agreements are estimated using a pricing model with inputs that are observable in the market (e.g., the relevant interest rate curves (that is, the relevant LIBOR swap curve and, for purposes of discounting, the OIS curve) and, for agreements containing options, swaption volatility). The fair values of the Bank’s interest rate caps and floors are also estimated using a pricing model with inputs that are observable in the market (that is, cap/floor volatility, the relevant LIBOR swap curve and, for purposes of discounting, the OIS curve).

As the collateral (or variation margin in the case of daily settled contracts) and netting provisions of the Bank’s arrangements with its derivative counterparties significantly reduce the risk from nonperformance (see Note 11), the Bank does not consider its own nonperformance risk or the nonperformance risk associated with each of its counterparties to be a significant factor in the valuation of its derivative assets and liabilities. The Bank compares the fair values obtained from its pricing model to clearinghouse valuations (in the case of cleared derivatives) and non-binding dealer estimates (in the case of bilateral derivatives) and may also compare its fair values to those of similar instruments to ensure that the fair values are reasonable.

The fair values of the Bank’s derivative assets and liabilities include accrued interest receivable/payable and cash collateral remitted to/received from counterparties; the estimated fair values of the accrued interest receivable/payable and cash collateral approximate their carrying values due to their short-term nature. The fair values of the Bank's bilateral derivatives are netted by counterparty pursuant to the provisions of the credit support annexes to the Bank’s master netting agreements with its non-member bilateral derivative counterparties. The Bank's cleared derivative transactions with each clearing member of each clearinghouse are netted pursuant to the Bank's arrangements with those parties. In each case, if the netted amounts are positive, they are classified as an asset and, if negative, as a liability.

The Bank estimates the fair values of mortgage delivery commitments based upon the prices for to-be-announced ("TBA") securities, which represent quoted market prices for forward-settling agency MBS. The prices are adjusted for differences in coupon, cost to carry, vintage, remittance type and product type between the Bank's mortgage loan commitments and the referenced TBA MBS.

Other assets held at fair value. To value its mutual fund investments included in other assets, the Bank obtains quoted prices for the mutual funds.

The following table presents the carrying values and estimated fair values of the Bank's financial instruments at March 31, 2019 (in thousands), as well as the level within the fair value hierarchy in which the measurements are classified. Financial assets and liabilities are classified in their entirety based on the lowest level input that is significant to the fair value estimate.

FAIR VALUE SUMMARY TABLE

		Estimated Fair Value				
Financial Instruments	**Carrying Value**	**Total**	**Level 1**	**Level 2**	**Level 3**	**Netting Adjustment[4]**
Assets:						
Cash and due from banks	$ 47,497	$ 47,497	$ 47,497	$ —	$ —	$ —
Interest-bearing deposits	1,256,255	1,256,255	—	1,256,255	—	—
Securities purchased under agreements to resell	5,515,000	5,515,000	—	5,515,000	—	—
Federal funds sold	2,125,000	2,125,000	—	2,125,000	—	—
Trading securities [1]	3,592,104	3,592,104	—	3,592,104	—	—
Available-for-sale securities [1]	16,135,812	16,135,812	—	16,135,812	—	—
Held-to-maturity securities	1,416,816	1,431,789	—	1,355,655 [2]	76,134 [3]	—
Advances	36,096,595	36,066,088	—	36,066,088	—	—
Mortgage loans held for portfolio, net	2,594,412	2,604,052	—	2,604,052	—	—
Accrued interest receivable	162,010	162,010	—	162,010	—	—
Derivative assets [1]	52,328	52,328	—	73,444	—	(21,116)
Other assets held at fair value [1]	12,341	12,341	12,341	—	—	—
Liabilities:						
Deposits	792,046	792,101	—	792,101	—	—
Consolidated obligations						
Discount notes	37,369,065	37,362,270	—	37,362,270	—	—
Bonds	26,746,361	26,712,206	—	26,712,206	—	—
Mandatorily redeemable capital stock	7,753	7,753	7,753	—	—	—
Accrued interest payable	134,076	134,076	—	134,076	—	—
Derivative liabilities [1]	20,090	20,090	—	158,219	—	(138,129)

(1) Financial instruments measured at fair value on a recurring basis as of March 31, 2019.

(2) Consists of the Bank's holdings of U.S. government-guaranteed debentures, state housing agency obligations, U.S. government-guaranteed RMBS and GSE RMBS.

(3) Consists of the Bank's holdings of non-agency RMBS.

(4) Amounts represent the effect of legally enforceable master netting agreements or other legally enforceable arrangements between the Bank and its derivative counterparties that allow the Bank to offset positive and negative positions (inclusive of variation margin for daily settled contracts) as well as any cash collateral held or placed with those same counterparties.

The following table presents the carrying values and estimated fair values of the Bank's financial instruments at December 31, 2018 (in thousands), as well as the level within the fair value hierarchy in which the measurements are classified. Financial assets and liabilities are classified in their entirety based on the lowest level input that is significant to the fair value estimate.

FAIR VALUE SUMMARY TABLE

		Estimated Fair Value				
Financial Instruments	**Carrying Value**	**Total**	**Level 1**	**Level 2**	**Level 3**	**Netting Adjustment[4]**
Assets:						
Cash and due from banks	$ 35,157	$ 35,157	$ 35,157	$ —	$ —	$ —
Interest-bearing deposits	2,500,317	2,500,317	—	2,500,317	—	—
Securities purchased under agreements to resell	6,215,000	6,215,000	—	6,215,000	—	—
Federal funds sold	1,731,000	1,731,000	—	1,731,000	—	—
Trading securities [1]	1,818,178	1,818,178	—	1,818,178	—	—
Available-for-sale securities [1]	15,825,155	15,825,155	—	15,825,155	—	—
Held-to-maturity securities	1,462,279	1,478,691	—	1,400,536 [2]	78,155 [3]	—
Advances	40,793,813	40,720,636	—	40,720,636	—	—
Mortgage loans held for portfolio, net	2,185,503	2,161,720	—	2,161,720	—	—
Accrued interest receivable	152,670	152,670	—	152,670	—	—
Derivative assets [1]	9,878	9,878	—	43,696	—	(33,818)
Other assets held at fair value [1]	12,376	12,376	12,376	—	—	—
Liabilities:						
Deposits	963,992	964,017	—	964,017	—	—
Consolidated obligations						
Discount notes	35,731,713	35,723,208	—	35,723,208	—	—
Bonds	31,931,929	31,850,858	—	31,850,858	—	—
Mandatorily redeemable capital stock	6,979	6,979	6,979	—	—	—
Accrued interest payable	122,938	122,938	—	122,938	—	—
Derivative liabilities [1]	45,991	45,991	—	234,679	—	(188,688)

(1) Financial instruments measured at fair value on a recurring basis as of December 31, 2018.

(2) Consists of the Bank's holdings of U.S. government-guaranteed debentures, state housing agency obligations, U.S. government-guaranteed RMBS and GSE RMBS.

(3) Consists of the Bank's holdings of non-agency RMBS.

(4) Amounts represent the effect of legally enforceable master netting agreements or other legally enforceable arrangements between the Bank and its derivative counterparties that allow the Bank to offset positive and negative positions (inclusive of variation margin for daily settled contracts) as well as any cash collateral held or placed with those same counterparties.

Note 16—Commitments and Contingencies

Joint and several liability. The Bank is jointly and severally liable with the other 10 FHLBanks for the payment of principal and interest on all of the consolidated obligations issued by the FHLBanks. At March 31, 2019, the par amount of the other 10 FHLBanks' outstanding consolidated obligations was approximately $947 billion. The Finance Agency, in its discretion, may require any FHLBank to make principal or interest payments due on any consolidated obligation, regardless of whether there has been a default by a FHLBank having primary liability. To the extent that a FHLBank makes any consolidated obligation payment on behalf of another FHLBank, the paying FHLBank is entitled to reimbursement from the FHLBank with primary liability. However, if the Finance Agency determines that the primary obligor is unable to satisfy its obligations, then the Finance Agency may allocate the outstanding liability among the remaining FHLBanks on a pro rata basis in proportion to each FHLBank's participation in all consolidated obligations outstanding, or on any other basis that the Finance Agency may

determine. No FHLBank has ever failed to make any payment on a consolidated obligation for which it was the primary obligor; as a result, the regulatory provisions for directing other FHLBanks to make payments on behalf of another FHLBank or allocating the liability among other FHLBanks have never been invoked. If the Bank expected that it would be required to pay any amounts on behalf of its co-obligors under its joint and several liability, the Bank would charge to income the amount of the expected payment. Based upon the creditworthiness of the other FHLBanks, the Bank currently believes that the likelihood that it would have to pay any amounts beyond those for which it is primarily liable is remote.

Other commitments and contingencies. At March 31, 2019 and December 31, 2018, the Bank had commitments to make additional advances totaling approximately $9,323,000 and $124,223,000, respectively. In addition, outstanding standby letters of credit totaled $18,716,053,000 and $18,538,265,000 at March 31, 2019 and December 31, 2018, respectively. Based on management's credit analyses and collateral requirements, the Bank does not deem it necessary to have any provision for credit losses on these letters of credit (see Note 8).

In late 2017 and June 2018, the Bank entered into standby bond purchase agreements with a state housing finance agency within its district whereby, for a fee, the Bank agrees to serve as a standby liquidity provider. If required, the Bank will purchase and hold the housing finance agency's bonds until the designated marketing agent can find a suitable investor or the housing finance agency repurchases the bonds according to a schedule established by the agreement. Each standby bond purchase agreement includes the provisions under which the Bank would be required to purchase the bonds. At both March 31, 2019 and December 31, 2018, the Bank had outstanding standby bond purchase agreements totaling $449,890,000, of which $196,671,000 and $253,219,000 expire in 2022 and 2023, respectively. The Bank was not required to purchase any bonds under these agreements during the three months ended March 31, 2019 or the year ended December 31, 2018.

At March 31, 2019 and December 31, 2018, the Bank had commitments to purchase conventional mortgage loans totaling $23,114,000 and $11,687,000, respectively, from certain of its members that participate in the MPF program.

At March 31, 2019 and December 31, 2018, the Bank had commitments to issue $300,000,000 and $20,000,000, respectively, of consolidated obligation bonds, all of which were hedged with interest rate swaps. In addition, at March 31, 2019 and December 31, 2018, the Bank had commitments to issue $342,121,000 and $323,652,000 (par value) of consolidated obligation discount notes, none of which were hedged.

The Bank has transacted interest rate exchange agreements with large financial institutions and third-party clearinghouses that are subject to collateral exchange arrangements. As of March 31, 2019 and December 31, 2018, the Bank had pledged cash collateral of $126,245,000 and $163,887,000, respectively, to those parties that had credit risk exposure to the Bank related to interest rate exchange agreements. The pledged cash collateral (i.e., interest-bearing deposit asset) is netted against derivative assets and liabilities in the statements of condition. In addition, as of March 31, 2019 and December 31, 2018, the Bank had pledged securities with carrying values (and fair values) of $742,649,000 and $712,547,000, respectively, to parties that had credit risk exposure to the Bank related to interest rate exchange agreements. The pledged securities may be rehypothecated and are not netted against derivative assets and liabilities in the statements of condition.

In the ordinary course of its business, the Bank is subject to the risk that litigation may arise. Currently, the Bank is not a party to any material pending legal proceedings.

Note 17— Transactions with Shareholders

Affiliates of two of the Bank's derivative counterparties (Citigroup and Wells Fargo) acquired member institutions on March 31, 2005 and October 1, 2006, respectively. Since the acquisitions were completed, the Bank has continued to enter into interest rate exchange agreements with Citigroup and Wells Fargo in the normal course of business and under the same terms and conditions as before. Effective October 1, 2006, Citigroup terminated the Ninth District charter of the affiliate that acquired the member institution and, as a result, an affiliate of Citigroup became a non-member shareholder of the Bank.

Note 18 — Transactions with Other FHLBanks

Occasionally, the Bank loans (or borrows) short-term federal funds to (or from) other FHLBanks. The Bank did not loan any short-term federal funds to other FHLBanks during the three months ended March 31, 2019 or 2018.

During the three months ended March 31, 2019 and 2018, interest expense on borrowings from other FHLBanks totaled $669 and $58,264, respectively. The following table summarizes the Bank's borrowings from other FHLBanks during the three months ended March 31, 2019 and 2018 (in thousands).

	Three Months Ended March 31,	
	2019	**2018**
Balance at January 1,	$ —	$ —
Borrowings from:		
FHLBank of Indianapolis	10,000	300,000
FHLBank of Boston	—	175,000
FHLBank of Cincinnati	—	500,000
FHLBank of Des Moines	—	500,000
Repayments to:		
FHLBank of Indianapolis	(10,000)	(300,000)
FHLBank of Boston	—	(175,000)
FHLBank of Cincinnati	—	(500,000)
FHLBank of Des Moines	—	(500,000)
Balance at March 31,	$ —	$ —

Note 19 — Accumulated Other Comprehensive Income (Loss)

The following table presents the changes in the components of AOCI for the three months ended March 31, 2019 and 2018 (in thousands).

	Net Unrealized Gains (Losses) on Available-for-Sale Securities [(1)]	Net Unrealized Gains (Losses) on Cash Flow Hedges	Non-Credit Portion of Other-than-Temporary Impairment Losses on Held-to-Maturity Securities	Postretirement Benefits	Total AOCI
Three Months Ended March 31, 2019					
Balance at January 1, 2019	$ 118,980	$ 18,412	$ (10,667)	$ 1,276	$ 128,001
Reclassifications from AOCI to net income					
Realized gains on sales of available-for-sale securities included in net income	(440)	—	—	—	(440)
Gains on cash flow hedges included in interest expense	—	(807)	—	—	(807)
Amortization of prior service costs and net actuarial gains recognized in other income (loss)	—	—	—	(18)	(18)
Other amounts of other comprehensive income (loss)					
Net unrealized gains on available-for-sale securities	52,263	—	—	—	52,263
Unrealized losses on cash flow hedges	—	(20,390)	—	—	(20,390)
Accretion of non-credit portion of other-than-temporary impairment losses to the carrying value of held-to-maturity securities	—	—	593	—	593
Total other comprehensive income (loss)	51,823	(21,197)	593	(18)	31,201
Balance at March 31, 2019	$ 170,803	$ (2,785)	$ (10,074)	$ 1,258	$ 159,202
Three Months Ended March 31, 2018					
Balance at January 1, 2018	$ 212,225	$ 20,185	$ (13,601)	$ 1,517	$ 220,326
Reclassifications from AOCI to net income					
Losses on cash flow hedges included in interest expense	—	310	—	—	310
Amortization of prior service costs and net actuarial gains recognized in other income (loss)	—	—	—	(21)	(21)
Other amounts of other comprehensive income					
Net unrealized gains on available-for-sale securities	40,399	—	—	—	40,399
Unrealized gains on cash flow hedges	—	13,840	—	—	13,840
Accretion of non-credit portion of other-than-temporary impairment losses to the carrying value of held-to-maturity securities	—	—	773	—	773
Total other comprehensive income (loss)	40,399	14,150	773	(21)	55,301
Balance at March 31, 2018	$ 252,624	$ 34,335	$ (12,828)	$ 1,496	$ 275,627

[(1)] Net unrealized gains (losses) on available-for-sale securities are net of unrealized gains and losses relating to hedged interest rate risk included in net income.

ITEM 2. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

The following discussion and analysis of financial condition and results of operations should be read in conjunction with the financial statements and notes thereto included in "Item 1. Financial Statements."

Forward-Looking Information

This quarterly report contains forward-looking statements that reflect current beliefs and expectations of the Federal Home Loan Bank of Dallas (the "Bank") about its future results, performance, liquidity, financial condition, prospects and opportunities. These statements are identified by the use of forward-looking terminology, such as "anticipates," "plans," "believes," "could," "estimates," "may," "should," "would," "will," "might," "expects," "intends" or their negatives or other similar terms. The Bank cautions that forward-looking statements involve risks or uncertainties that could cause the Bank's actual results to differ materially from those expressed or implied in these forward-looking statements, or could affect the extent to which a particular objective, projection, estimate or prediction is realized. As a result, undue reliance should not be placed on these statements.

These risks and uncertainties include, without limitation, evolving economic and market conditions, political events, and the impact of competitive business forces. The risks and uncertainties related to evolving economic and market conditions include, but are not limited to, changes in interest rates, changes in the Bank's access to the capital markets, changes in the cost of the Bank's debt, changes in the ratings on the Bank's debt, adverse consequences resulting from a significant regional, national or global economic downturn (including, but not limited to, reduced demand for the Bank's products and services), credit and prepayment risks, or changes in the financial health of the Bank's members or non-member borrowers. Among other things, political events could possibly lead to changes in the Bank's regulatory environment or its status as a government-sponsored enterprise ("GSE"), or to changes in the regulatory environment for the Bank's members or non-member borrowers. Risks and uncertainties related to competitive business forces include, but are not limited to, the potential loss of a significant amount of member borrowings through acquisitions or other means or changes in the relative competitiveness of the Bank's products and services for member institutions. For a more detailed discussion of the risk factors applicable to the Bank, see "Item 1A — Risk Factors" in the Bank's Annual Report on Form 10-K for the year ended December 31, 2018, which was filed with the Securities and Exchange Commission ("SEC") on March 25, 2019 (the "2018 10-K"). The Bank undertakes no obligation to publicly update or revise any forward-looking statements, whether as a result of new information, future events, changed circumstances, or any other reason.

Overview

Business

The Bank is one of 11 district Federal Home Loan Banks (each individually a "FHLBank" and collectively the "FHLBanks" and, together with the Federal Home Loan Banks Office of Finance ("Office of Finance"), a joint office of the FHLBanks, the "FHLBank System") that were created by the Federal Home Loan Bank Act of 1932. The FHLBanks serve the public by enhancing the availability of credit for residential mortgages, community lending and targeted community development. As independent, member-owned cooperatives, the FHLBanks seek to maintain a balance between their public purpose and their ability to provide adequate returns on the capital supplied by their members. The Federal Housing Finance Agency ("Finance Agency"), an independent agency in the executive branch of the U.S. government, is responsible for supervising and regulating the FHLBanks and the Office of Finance. The Finance Agency's stated mission is to ensure that the housing GSEs, including the FHLBanks, operate in a safe and sound manner so that they serve as a reliable source of liquidity and funding for housing finance and community investment. Consistent with this mission, the Finance Agency establishes policies and regulations covering the operations of the FHLBanks.

The Bank serves eligible financial institutions in Arkansas, Louisiana, Mississippi, New Mexico and Texas (collectively, the Ninth District of the FHLBank System). The Bank's primary business is lending relatively low cost funds (known as advances) to its member institutions, which include commercial banks, savings institutions, insurance companies, credit unions, and Community Development Financial Institutions that are certified under the Community Development Banking and Financial Institutions Act of 1994. While not members of the Bank, housing associates, including state and local housing authorities, that meet certain statutory criteria may also borrow from the Bank. The Bank also maintains a portfolio of investments, substantially all of which are highly rated, for liquidity purposes and to provide additional earnings. Additionally, the Bank holds interests in a portfolio of predominately conventional mortgage loans that were acquired through the Mortgage Partnership Finance® ("MPF"®) Program administered by the FHLBank of Chicago. Shareholders' return on their investment includes dividends (which are typically paid quarterly in the form of capital stock) and the value derived from access to the Bank's products and services. Historically, the Bank has balanced the financial rewards to shareholders by seeking to pay a dividend that meets or exceeds the return on alternative short-term money market investments available to shareholders, while lending funds at the lowest rates expected to be compatible with that objective and its objective to build retained earnings over time.

The Bank's capital stock is not publicly traded and can be held only by members of the Bank, by non-member institutions that acquire stock by virtue of acquiring member institutions, by a federal or state agency or insurer acting as a receiver of a closed institution, or by former members of the Bank that retain capital stock to support advances or other obligations that remain outstanding or until any applicable stock redemption or withdrawal notice period expires. All members must hold stock in the Bank. The Bank's capital stock has a par value of $100 per share and is purchased, redeemed, repurchased and transferred only at its par value. By regulation, the parties to a transaction involving the Bank's stock can include only the Bank and its member institutions (or non-member institutions or former members, as described above). While a member could transfer stock to another member of the Bank, that transfer could occur only upon approval of the Bank and then only at par value. Members may redeem excess stock, or withdraw from membership and redeem all outstanding capital stock, with five years' written notice to the Bank.

The FHLBanks' debt instruments (known as consolidated obligations) are their primary source of funds and are the joint and several obligations of all 11 FHLBanks. Consolidated obligations are issued through the Office of Finance (acting as agent for the FHLBanks) and generally are publicly traded in the over-the-counter market. The Bank records on its statements of condition only those consolidated obligations for which it receives the proceeds. Consolidated obligations are not obligations of the U.S. government and the U.S. government does not guarantee them. Consolidated obligations are currently rated Aaa/P-1 by Moody's Investors Service ("Moody's") and AA+/A-1+ by S&P Global Ratings ("S&P"). These ratings indicate that each of these nationally recognized statistical rating organizations ("NRSROs") has concluded that the FHLBanks have a very strong capacity to meet their commitments to pay principal and interest on consolidated obligations. The ratings also reflect the FHLBank System's status as a GSE. Historically, the FHLBanks' GSE status and very high credit ratings on consolidated obligations have provided the FHLBanks with excellent capital markets access. Deposits, other borrowings and the proceeds from capital stock issued to members are also sources of funds for the Bank.

In addition to ratings on the FHLBanks' consolidated obligations, each FHLBank is rated individually by both S&P and Moody's. These individual FHLBank ratings apply to the individual obligations of the respective FHLBanks, such as interest rate derivatives, deposits and letters of credit. As of March 31, 2019, Moody's had assigned a deposit rating of Aaa/P-1 to each of the FHLBanks and S&P had rated each of the FHLBanks AA+/A-1+.

Shareholders, bondholders and prospective shareholders and bondholders should understand that these credit ratings are not a recommendation to buy, hold or sell securities and they may be subject to revision or withdrawal at any time by the NRSRO. The ratings from each of the NRSROs should be evaluated independently.

The Bank conducts its business and fulfills its public purpose primarily by acting as a financial intermediary between its members and the capital markets. The intermediation of the timing, structure and amount of its members' credit needs with the investment requirements of the Bank's creditors is made possible by the extensive use of interest rate exchange agreements, including interest rate swaps, swaptions and caps.

The Bank's profitability objective is to generate sufficient earnings to allow the Bank to continue to increase its retained earnings and pay dividends on capital stock at rates that meet the Bank's dividend targets. Currently, the Bank's target for quarterly dividends on Class B-1 Stock is an annualized rate that approximates the average one-month LIBOR rate for the immediately preceding quarter. The target range for quarterly dividends on Class B-2 Stock is currently an annualized rate that approximates the average one-month LIBOR rate for the preceding quarter plus 0.5 - 1.0 percent. While the Bank has had a long-standing practice of paying quarterly dividends, future dividend payments cannot be assured.

The Bank operates in only one reportable segment. All of the Bank's revenues are derived from U.S. operations.

The following table summarizes the Bank’s membership, by type of institution, as of March 31, 2019 and December 31, 2018.

MEMBERSHIP SUMMARY

	March 31, 2019	December 31, 2018
Commercial banks	579	585
Savings institutions	56	57
Credit unions	120	118
Insurance companies	43	43
Community Development Financial Institutions	7	7
Total members	805	810
Housing associates	8	8
Non-member borrowers	7	5
Total	820	823
Community Financial Institutions (“CFIs”) [(1)]	571	572

(1) The figures shown reflect the number of institutions that were Community Financial Institutions as of March 31, 2019 and December 31, 2018 based upon the definitions of Community Financial Institutions that applied as of those dates.

For 2019, Community Financial Institutions (“CFIs”) are defined to include all institutions insured by the Federal Deposit Insurance Corporation (“FDIC”) with average total assets as of December 31, 2018, 2017 and 2016 of less than $1.199 billion. For 2018, CFIs were defined as FDIC-insured institutions with average total assets as of December 31, 2017, 2016 and 2015 of less than $1.173 billion.

As of March 31, 2019, the Bank had 805 members. The decline in the Bank's membership during the first three months of 2019 was largely attributable to intra-district merger activity.

Financial Market Conditions

Economic growth in the United States expanded during the first quarter of 2019. The gross domestic product increased at an annual rate of 3.2 percent during the first quarter of 2019, after increasing at annual rates of 2.2 percent during the fourth quarter of 2018 and 2.9 percent during 2018. The nationwide unemployment rate was 3.8 percent at March 31, 2019, down from 3.9 percent at December 31, 2018. Housing prices continued to increase in most major metropolitan areas, albeit at a slower pace than in 2018, while home sales slowed in many markets.

At its meeting held on April 30/May 1, 2019, the Federal Open Market Committee ("FOMC") maintained its target for the federal funds rate at a range between 2.25 percent and 2.50 percent (which it had set in December 2018) and stated that, in light of global economic and financial developments and muted inflation pressures, it will be patient as it determines what future adjustments to the target range for the federal funds rate may be appropriate. In addition, through September 2017, the FOMC maintained a policy of reinvesting principal payments from its holdings of agency debt and agency mortgage-backed securities in agency mortgage-backed securities and of rolling over maturing Treasury securities at auction. In October 2017, the FOMC began implementing a balance sheet normalization program, which is designed to gradually reduce the Federal Reserve's securities holdings by decreasing reinvestment of principal payments from those securities. At its March 2019 meeting, the FOMC announced that it would slow the pace of this program beginning in May 2019, and would end the runoff of its Treasury holdings at the end of September 2019. The FOMC's next regular meeting is scheduled to occur on June 18/19, 2019.

One-month and three-month LIBOR remained relatively stable during the first three months of 2019, with one-month and three-month LIBOR ending the first quarter at 2.49 percent and 2.60 percent, respectively, as compared to 2.50 percent and 2.81 percent, respectively, at the end of 2018.

The following table presents information on various market interest rates at March 31, 2019 and December 31, 2018 and various average market interest rates for the three-month periods ended March 31, 2019 and 2018.

	Ending Rate		Average Rate	
	March 31, 2019	December 31, 2018	First Quarter 2019	First Quarter 2018
Federal Funds Target [1]	2.50%	2.50%	2.50%	1.53%
Average Effective Federal Funds Rate [2]	2.43%	2.40%	2.40%	1.45%
1-month LIBOR [1]	2.49%	2.50%	2.50%	1.65%
3-month LIBOR [1]	2.60%	2.81%	2.69%	1.93%
2-year LIBOR [1]	2.38%	2.66%	2.62%	2.40%
5-year LIBOR [1]	2.28%	2.57%	2.54%	2.63%
10-year LIBOR [1]	2.41%	2.71%	2.67%	2.78%
3-month U.S. Treasury [1]	2.40%	2.45%	2.44%	1.58%
2-year U.S. Treasury [1]	2.27%	2.48%	2.49%	2.16%
5-year U.S. Treasury [1]	2.23%	2.51%	2.46%	2.53%
10-year U.S. Treasury [1]	2.41%	2.69%	2.65%	2.76%

(1) Source: Bloomberg (reflects upper end of target range)

(2) Source: Federal Reserve Statistical Release

Year-to-Date 2019 Summary

- The Bank ended the first quarter of 2019 with total assets of $69.0 billion compared with $72.8 billion at the end of 2018. The $3.8 billion decrease in total assets for the three months ended March 31, 2019 was attributable to a decrease in the Bank's advances ($4.7 billion), partially offset by increases in the Bank's mortgage loans held for portfolio ($0.4 billion), long-term investments ($0.3 billion) and short-term liquidity portfolio ($0.2 billion).
- Total advances decreased from $40.8 billion at December 31, 2018 to $36.1 billion at March 31, 2019.
- Mortgage loans held for portfolio increased from $2.2 billion at December 31, 2018 to $2.6 billion at March 31, 2019.
- The Bank’s net income for the three months ended March 31, 2019 was $58.4 million, as compared to $41.7 million during the corresponding period in 2018. For discussion and analysis of the $16.7 million increase, see the section entitled "Results of Operations" beginning on page 57 of this report.
- At all times during the first three months of 2019, the Bank was in compliance with all of its regulatory capital requirements. In addition, the Bank’s retained earnings increased to $1.121 billion at March 31, 2019 from $1.081 billion at December 31, 2018. Retained earnings was 1.62 percent and 1.49 percent of total assets at March 31, 2019 and December 31, 2018, respectively.
- During the first three months of 2019, the Bank paid dividends totaling $19.1 million. The Bank’s first quarter 2019 dividends on Class B-1 Stock and Class B-2 Stock were paid at annualized rates of 2.35 percent (a rate equal to average one-month LIBOR for the fourth quarter of 2018) and 3.35 percent (a rate equal to average one-month LIBOR for the fourth quarter of 2018 plus 1.0 percent), respectively.

Selected Financial Data

SELECTED FINANCIAL DATA
(dollars in thousands)

	First Quarter 2019	2018 Fourth Quarter	2018 Third Quarter	2018 Second Quarter	2018 First Quarter
Balance sheet (at quarter end)					
Advances	$ 36,096,595	$ 40,793,813	$ 42,241,727	$ 43,589,555	$ 35,303,746
Investments [1]	30,040,987	29,551,929	29,433,699	30,807,424	28,571,090
Mortgage loans held for portfolio	2,595,023	2,185,996	1,795,576	1,322,093	1,019,653
Allowance for credit losses on mortgage loans	611	493	382	278	271
Total assets	69,037,492	72,773,290	73,710,099	75,939,877	65,099,832
Consolidated obligations — discount notes	37,369,065	35,731,713	33,996,816	39,322,407	26,641,297
Consolidated obligations — bonds	26,746,361	31,931,929	34,382,344	31,141,214	33,502,435
Total consolidated obligations[2]	64,115,426	67,663,642	68,379,160	70,463,621	60,143,732
Mandatorily redeemable capital stock[3]	7,753	6,979	6,877	824	832
Capital stock — putable	2,431,577	2,554,888	2,608,799	2,660,055	2,350,943
Unrestricted retained earnings	960,243	932,675	904,525	880,637	855,150
Restricted retained earnings	160,372	148,692	137,066	127,051	117,285
Total retained earnings	1,120,615	1,081,367	1,041,591	1,007,688	972,435
Accumulated other comprehensive income	159,202	128,001	280,155	244,576	275,627
Total capital	3,711,394	3,764,256	3,930,545	3,912,319	3,599,005
Dividends paid[3]	19,123	18,358	16,168	13,581	11,064
Income statement (for the quarter)					
Net interest income after provision for mortgage loan losses[4]	$ 71,978	$ 85,431	$ 80,937	$ 76,005	$ 68,093
Other income (loss)[4]	16,977	1,765	(2,503)	425	2,274
Other expense	24,065	22,597	22,798	22,169	23,991
AHP assessment	6,494	6,465	5,565	5,427	4,640
Net income	58,396	58,134	50,071	48,834	41,736
Performance ratios					
Net interest margin[4][5]	0.42%	0.49%	0.45%	0.46%	0.42%
Net interest spread [4][6]	0.26	0.36	0.33	0.36	0.34
Return on average assets	0.35	0.33	0.28	0.30	0.26
Return on average equity	6.22	5.92	5.05	5.22	4.63
Return on average capital stock [7]	9.28	8.98	7.53	7.88	6.99
Total average equity to average assets	5.57	5.59	5.45	5.75	5.61
Regulatory capital ratio[8]	5.16	5.01	4.96	4.83	5.11
Dividend payout ratio [3][9]	32.75	31.58	32.29	27.81	26.51

(1) Investments consist of interest-bearing deposits, federal funds sold, securities purchased under agreements to resell, loans to other FHLBanks and securities classified as held-to-maturity, available-for-sale, and trading.

(2) The Bank is jointly and severally liable with the other FHLBanks for the payment of principal and interest on the consolidated obligations of all of the FHLBanks. At March 31, 2019, December 31, 2018, September 30, 2018, June 30, 2018 and March 31, 2018, the outstanding consolidated obligations (at par value) of all of the FHLBanks totaled approximately $1.011 trillion, $1.032 trillion, $1.019 trillion, $1.060 trillion and $1.019 trillion, respectively. As of those dates, the Bank's outstanding consolidated obligations (at par value) were $64 billion, $68 billion, $69 billion, $71 billion and $61 billion, respectively.

(3) Mandatorily redeemable capital stock represents capital stock that is classified as a liability under accounting principles generally accepted in the United States of America. Dividends on mandatorily redeemable capital stock are recorded as interest expense and excluded from dividends paid. Dividends paid on mandatorily redeemable capital stock totaled $50 thousand, $21 thousand, $6 thousand, $24 thousand and $22 thousand for the quarters ended March 31, 2019, December 31, 2018, September 30, 2018, June 30, 2018 and March 31, 2018, respectively.

(4) The Bank adopted ASU 2017-12, *"Targeted Improvements to Accounting for Hedging Activities"* ("ASU 2017-12") on January 1, 2019. In accordance with ASU 2017-12, changes in the fair value of a derivative in a qualifying fair value hedge along with changes in the fair value of the hedged asset or liability attributable to the hedged risk (the net amount of which is referred to as fair value hedge ineffectiveness) are recorded in net interest income. Prior to the adoption of ASU 2017-12, the Bank recorded fair value hedge ineffectiveness in other income (loss). Because prior period amounts have not been reclassified to conform to the new presentation requirements, net interest income after provision for mortgage loan losses, other income (loss), net interest margin and net interest spread for the three months ended March 31, 2019 are not comparable to prior periods. For additional discussion, see the section entitled "Results of Operations" beginning on page 57 of this report.

(5) Net interest margin is net interest income as a percentage of average earning assets.

(6) Net interest spread is the difference between the yield on interest-earning assets and the cost of interest-bearing liabilities.

(7) Return on average capital stock is derived by dividing net income by average capital stock balances excluding mandatorily redeemable capital stock.

(8) The regulatory capital ratio is computed by dividing regulatory capital (the sum of capital stock — putable, mandatorily redeemable capital stock and retained earnings) by total assets at each quarter-end.

(9) Dividend payout ratio is computed by dividing dividends paid by net income for each quarter.

Financial Condition

The following table provides selected period-end balances as of March 31, 2019 and December 31, 2018, as well as selected average balances for the three-month period ended March 31, 2019 and the year ended December 31, 2018. As shown in the table, the Bank's total assets decreased by 5.1 percent between December 31, 2018 and March 31, 2019, due to a decrease in the Bank's advances ($4.7 billion), partially offset by increases in the Bank's mortgage loans held for portfolio ($0.4 billion), long-term investments ($0.3 billion) and short-term liquidity portfolio ($0.2 billion). As the Bank's assets decreased, the funding for those assets also decreased. During the three months ended March 31, 2019, total consolidated obligations decreased by $3.5 billion as consolidated obligation bonds decreased by $5.1 billion and consolidated obligation discount notes increased by $1.6 billion.

The activity in each of the major balance sheet captions is discussed in the sections following the table.

SUMMARY OF CHANGES IN FINANCIAL CONDITION

(dollars in millions)

	March 31, 2019			Balance at
		Increase (Decrease)		
	Balance	Amount	Percentage	December 31, 2018
Advances	$ 36,097	$ (4,697)	(11.5)%	$ 40,794
Short-term liquidity holdings				
Interest-bearing deposits	1,256	(1,244)	(49.8)%	2,500
Securities purchased under agreements to resell	5,515	(700)	(11.3)%	6,215
Federal funds sold	2,125	394	22.8 %	1,731
Trading securities				
U.S. Treasury Bills	1,822	1,822	*	—
U.S. Treasury Notes	1,668	(49)	(2.9)%	1,717
Total short-term liquidity holdings	12,386	223	1.8 %	12,163
Long-term investments				
Trading securities (U.S. Treasury Note)	103	2	2.0 %	101
Available-for-sale securities	16,136	311	2.0 %	15,825
Held-to-maturity securities	1,417	(45)	(3.1)%	1,462
Total long-term investments	17,656	268	1.5 %	17,388
Mortgage loans held for portfolio, net	2,594	408	18.7 %	2,186
Total assets	69,037	(3,736)	(5.1)%	72,773
Consolidated obligations				
Consolidated obligations — bonds	26,746	(5,186)	(16.2)%	31,932
Consolidated obligations — discount notes	37,369	1,637	4.6 %	35,732
Total consolidated obligations	64,115	(3,549)	(5.2)%	67,664
Mandatorily redeemable capital stock	8	1	14.3 %	7
Capital stock	2,432	(123)	(4.8)%	2,555
Retained earnings	1,121	40	3.7 %	1,081
Average total assets	68,387	312	0.5 %	68,075
Average capital stock	2,553	24	0.9 %	2,529
Average mandatorily redeemable capital stock	7	3	75.0 %	4

* The percentage increase is not meaningful.

Advances

The Bank's advances balances (at par value) decreased by $4.7 billion (11.5 percent) during the first three months of 2019, due primarily to a decrease in overnight and other short-term, fixed-rate advances. Advances declined broadly across the Bank's membership. Borrowers that reduced their borrowings outnumbered borrowers that increased their borrowings by a margin of approximately three to one. The following table presents advances outstanding, by type of institution, as of March 31, 2019 and December 31, 2018.

ADVANCES OUTSTANDING BY BORROWER TYPE
(par value, dollars in millions)

	March 31, 2019		December 31, 2018	
	Amount	Percent	Amount	Percent
Commercial banks	$ 22,650	63%	$ 26,105	64%
Insurance companies	6,502	18	6,394	16
Savings institutions	3,951	11	4,631	11
Credit unions	2,726	8	3,459	9
Community Development Financial Institutions	16	—	16	—
Total member advances	35,845	100	40,605	100
Housing associates	179	—	170	—
Non-member borrowers	22	—	17	—
Total par value of advances	$ 36,046	100%	$ 40,792	100%
Total par value of advances outstanding to CFIs (1)	$ 5,510	15%	$ 5,869	14%

(1) The figures shown reflect the advances outstanding to CFIs as of March 31, 2019 and December 31, 2018 based upon the definitions of CFIs that applied as of those dates.

At March 31, 2019, advances outstanding to the Bank’s five largest borrowers totaled $14.9 billion, representing 41.3 percent of the Bank’s total outstanding advances as of that date. In comparison, advances outstanding to the Bank’s five largest borrowers as of December 31, 2018 totaled $15.4 billion, representing 37.9 percent of the total outstanding advances at that date. The following table presents the Bank’s five largest borrowers as of March 31, 2019.

FIVE LARGEST BORROWERS AS OF MARCH 31, 2019
(par value, dollars in millions)

Name	Par Value of Advances	Percent of Total Par Value of Advances
Comerica Bank	$ 4,200	11.7%
Texas Capital Bank, N.A.	3,600	10.0
American General Life Insurance Company	3,148	8.7
Iberiabank	2,139	5.9
Life Insurance Company of the Southwest	1,796	5.0
	$ 14,883	41.3%

The following table presents information regarding the composition of the Bank's advances by product type as of March 31, 2019 and December 31, 2018.

ADVANCES OUTSTANDING BY PRODUCT TYPE
(par value, dollars in millions)

	March 31, 2019		December 31, 2018	
	Balance	Percentage of Total	Balance	Percentage of Total
Fixed-rate	$ 23,954	66.5%	$ 28,753	70.5%
Adjustable/variable-rate indexed	10,813	30.0	10,730	26.3
Amortizing	1,279	3.5	1,309	3.2
Total par value	$ 36,046	100.0%	$ 40,792	100.0%

The Bank is required by statute and regulation to obtain sufficient collateral from members/borrowers to fully secure all advances and other extensions of credit. The Bank's collateral arrangements with its members/borrowers and the types of collateral it accepts to secure advances are described in the 2018 10-K. To ensure the value of collateral pledged to the Bank is sufficient to secure its advances, the Bank applies various haircuts, or discounts, to determine the value of the collateral against which borrowers may borrow. From time to time, the Bank reevaluates the adequacy of its collateral haircuts under a range of stress scenarios to ensure that its collateral haircuts are sufficient to protect the Bank from credit losses on advances.

In addition, as described in the 2018 10-K, the Bank reviews the financial condition of its depository institution borrowers on at least a quarterly basis to identify any borrowers whose financial condition indicates they might pose an increased credit risk and, as needed, takes appropriate action. The Bank has not experienced any credit losses on advances since it was founded in 1932 and, based on its credit extension and collateral policies, management currently does not anticipate any credit losses on advances. Accordingly, the Bank has not provided any allowance for losses on advances.

Short-Term Liquidity Holdings

At March 31, 2019, the Bank's short-term liquidity holdings were comprised of $5.5 billion of overnight reverse repurchase agreements, $2.1 billion of overnight federal funds sold, $1.3 billion of overnight interest-bearing deposits, $1.8 billion of U.S. Treasury Bills and $1.7 billion of U.S. Treasury Notes that were acquired with short remaining terms to maturity. At December 31, 2018, the Bank's short-term liquidity holdings were comprised of $6.2 billion of overnight reverse repurchase agreements, $2.5 billion of overnight interest-bearing deposits, $1.7 billion of overnight federal funds sold and $1.7 billion of U.S. Treasury Notes that were acquired with short remaining terms to maturity. All of the Bank's federal funds sold during the three months ended March 31, 2019 were transacted with domestic bank counterparties and U.S. branches of foreign financial institutions on an overnight basis and all of its interest-bearing deposits were transacted on an overnight basis with domestic bank counterparties. As of March 31, 2019, the Bank's overnight federal funds sold consisted of $1.6 billion sold to counterparties rated single-A and $0.5 billion sold to counterparties rated triple-B. As of March 31, 2019, substantially all of the Bank's interest-bearing deposits were held in single-A rated domestic banks. The credit ratings presented in the two preceding sentences represent the lowest long-term rating assigned to the counterparty by Moody's or S&P.

The amount of the Bank's short-term liquidity holdings fluctuates in response to several factors, including the anticipated demand for advances, the timing and extent of advance prepayments, changes in the Bank's deposit balances, the Bank's pre-funding activities, prevailing conditions (or anticipated changes in conditions) in the short-term debt markets, changes in the returns provided by short-term investment alternatives relative to the Bank's discount note funding costs, the level of liquidity needed to satisfy Finance Agency requirements and the Finance Agency's expectations with regard to the Bank's core mission achievement. For a discussion of the Finance Agency's current liquidity requirements, see the section below entitled "Liquidity and Capital Resources." For a discussion of the Finance Agency's guidance regarding core mission achievement, see Item 1 - Business - Core Mission Achievement in the 2018 10-K. For the three months ended March 31, 2019, the Bank's core mission asset ("CMA") ratio was 64.2 percent. In comparison, the Bank's CMA ratio was 64.7 percent for the year ended December 31, 2018.

Long-Term Investments

The composition of the Bank's long-term investment portfolio at March 31, 2019 and December 31, 2018 is set forth in the table below.

COMPOSITION OF LONG-TERM INVESTMENT PORTFOLIO
(in millions)

	Balance Sheet Classification			Total Long-Term	
March 31, 2019	**Held-to-Maturity (at carrying value)**	**Available-for-Sale (at fair value)**	**Trading (at fair value)**	**Investments (at carrying value)**	**Held-to-Maturity (at fair value)**
Debentures					
U.S. government-guaranteed obligations	$ 7	$ 460	$ 103	$ 570	$ 7
GSE obligations	—	5,637	—	5,637	—
State housing agency obligations	135	—	—	135	134
Other	—	45	—	45	—
Total debentures	142	6,142	103	6,387	141
Mortgage-backed securities ("MBS") portfolio					
U.S. government-guaranteed residential MBS	1	—	—	1	1
GSE residential MBS	1,211	—	—	1,211	1,214
GSE commercial MBS	—	9,994	—	9,994	—
Non-agency residential MBS	63	—	—	63	76
Total MBS	1,275	9,994	—	11,269	1,291
Total long-term investments	$ 1,417	$ 16,136	$ 103	$ 17,656	$ 1,432

	Balance Sheet Classification			Total Long-Term	
December 31, 2018	**Held-to-Maturity (at carrying value)**	**Available-for-Sale (at fair value)**	**Trading (at fair value)**	**Investments (at carrying value)**	**Held-to-Maturity (at fair value)**
Debentures					
U.S. government-guaranteed obligations	$ 8	$ 453	$ 101	$ 562	$ 8
GSE obligations	—	5,687	—	5,687	—
State housing agency obligations	135	—	—	135	134
Other	—	171	—	171	—
Total debentures	143	6,311	101	6,555	142
Mortgage-backed securities portfolio					
U.S. government-guaranteed residential MBS	1	—	—	1	1
GSE residential MBS	1,253	—	—	1,253	1,258
GSE commercial MBS	—	9,514	—	9,514	—
Non-agency residential MBS	65	—	—	65	78
Total MBS	1,319	9,514	—	10,833	1,337
Total long-term investments	$ 1,462	$ 15,825	$ 101	$ 17,388	$ 1,479

As of March 31, 2019, the U.S. government and the issuers of the Bank's holdings of GSE debentures and GSE MBS were rated triple-A by Moody's and AA+ by S&P. At that same date, the Bank's holdings of other debentures, which were comprised of securities issued by the Private Export Funding Corporation ("PEFCO"), were rated triple-A by Moody's. The PEFCO debentures are not currently rated by S&P. The credit ratings associated with the Bank's holdings of non-agency residential MBS ("RMBS") are presented in the table on page 49.

During the three months ended March 31, 2019, the Bank acquired (based on trade date) $561 million of GSE commercial MBS ("CMBS"). All of the Bank's CMBS holdings are backed by multi-family loans. During the three months ended March 31, 2019, the proceeds from maturities and paydowns of held-to-maturity securities and available-for-sale securities totaled approximately $46 million and $181 million, respectively.

During the three months ended March 31, 2019, the Bank sold $410 million (par value) of available-for-sale securities. The gains recognized on these sales totaled $0.4 million. No held-to-maturity securities were sold during this same three-month period.

The Bank is precluded by regulation from purchasing additional MBS if such purchase would cause the aggregate amortized cost of its MBS holdings to exceed 300 percent of the Bank's total regulatory capital (the sum of its capital stock, mandatorily redeemable capital stock and retained earnings). However, the Bank is not required to sell any mortgage securities that it purchased at a time when it was in compliance with this ratio. At March 31, 2019, the Bank held $11.2 billion (amortized cost) of MBS, which represented 315 percent of its total regulatory capital as of that date. The Bank intends to continue to purchase additional GSE MBS if securities with adequate returns are available when the Bank has the regulatory capacity to increase its MBS portfolio.

In addition to MBS, the Bank is also permitted under applicable policies and regulations to purchase certain other types of highly rated, long-term, non-MBS investments (including but not limited to the non-MBS debt obligations of other GSEs, subject to certain limits). Subject to applicable regulatory limits and the constraints imposed by the Finance Agency's guidance regarding core mission achievement, the Bank may add these types of securities to its long-term investment portfolio if attractive opportunities to do so are available.

Gross unrealized losses on the Bank's MBS investments declined from $39.1 million at December 31, 2018 to $20.7 million at March 31, 2019. As of March 31, 2019, $17.6 million of the gross unrealized losses related to the Bank's holdings of GSE CMBS, $1.9 million related to GSE RMBS and $1.2 million related to non-agency RMBS. At March 31, 2019, gross unrealized losses associated with the Bank's non-MBS investments totaled $2.8 million.

The Bank evaluates all outstanding held-to-maturity and available-for-sale investment securities in an unrealized loss position as of the end of each calendar quarter for other-than-temporary impairment ("OTTI"). An investment security is impaired if the fair value of the investment is less than its amortized cost. For a summary of the Bank's OTTI evaluation, see "Item 1. Financial Statements" (specifically, Notes 4 and 5 beginning on pages 9 and 11, respectively, of this report).

The deterioration in the U.S. housing markets that occurred primarily during the period from 2007 through 2011, as reflected during that period by declines in the values of residential real estate and higher levels of delinquencies, defaults and losses on residential mortgages, including the mortgages underlying the Bank's non-agency RMBS, generally increased the risk that the Bank may not ultimately recover the entire cost bases of some of its non-agency RMBS. However, based upon its analysis of the securities in this portfolio, the Bank believes that the unrealized losses as of March 31, 2019 were principally the result of liquidity risk related discounts in the non-agency RMBS market and do not accurately reflect the currently likely future credit performance of the securities.

All but one of the Bank's non-agency RMBS are rated by Moody's and/or S&P. The following table presents the credit ratings assigned to the Bank's non-agency RMBS holdings as of March 31, 2019. The credit ratings presented in the table represent the lowest rating assigned to the security by Moody's or S&P.

NON-AGENCY RMBS CREDIT RATINGS
(dollars in thousands)

Credit Rating	Number of Securities	Unpaid Principal Balance	Amortized Cost	Carrying Value	Estimated Fair Value	Unrealized Losses
Double-A	1	$ 1,358	$ 1,358	$ 1,358	$ 1,326	$ 32
Single-A	2	9,938	9,937	9,937	9,794	143
Triple-B	2	3,702	3,702	3,702	3,650	52
Single-B	4	13,684	13,542	11,914	13,158	425
Triple-C	12	51,912	44,943	36,497	48,128	587
Not Rated	1	83	83	83	78	5
Total	22	$ 80,677	$ 73,565	$ 63,491	$ 76,134	$ 1,244

At March 31, 2019, the Bank's portfolio of non-agency RMBS was comprised of 3 securities with an aggregate unpaid principal balance of $9 million that are backed by first lien fixed-rate loans and 19 securities with an aggregate unpaid principal balance of $72 million that are backed by first lien option adjustable-rate mortgage ("option ARM") loans. In comparison, as of December 31, 2018, the Bank's portfolio of non-agency RMBS was comprised of 3 securities backed by fixed-rate loans that had an aggregate unpaid principal balance of $9 million and 19 securities backed by option ARM loans that had an aggregate unpaid principal balance of $75 million. A summary of the Bank's non-agency RMBS as of December 31, 2018 by

classification by the originator at the time of issuance and collateral type is presented in the 2018 10-K; there were no material changes to this information during the three months ended March 31, 2019.

To assess whether the entire amortized cost bases of its non-agency RMBS are likely to be recovered, the Bank performed a cash flow analysis for each of its non-agency RMBS holdings as of March 31, 2019 under a base case (or best estimate) scenario. The procedures used in this analysis, together with the results thereof, are summarized in “Item 1. Financial Statements” (specifically, Note 5 beginning on page 11 of this report).

Since 2009, the Bank has recorded credit impairments totaling $13.1 million on 15 of its non-agency RMBS. The vast majority of these credit impairments were recorded in 2009, 2010 and 2011. Through March 31, 2019, the Bank has amortized $0.9 million of the time value associated with these credit losses. Through this same date, actual principal shortfalls on these securities have totaled $2.1 million and the Bank has recognized recoveries (i.e., increases in cash flows expected to be collected) totaling $4.8 million. Based on the cash flow analyses performed as of March 31, 2019, the Bank currently expects to recover in future periods an additional $6.5 million of the previously recorded losses. These anticipated recoveries will be accreted as interest income over the remaining lives of the applicable securities in the same manner as the recoveries that have been recorded through March 31, 2019.

In addition to evaluating its non-agency RMBS under a best estimate scenario, the Bank also performed a cash flow analysis for each of these securities as of March 31, 2019 under a more stressful housing price scenario. This more stressful scenario was based on a housing price forecast that assumed home price changes for the 12-month period beginning January 1, 2019 were 5 percentage points lower than the base case scenario followed by home price changes that are 33 percent lower than those used in the base case scenario. None of the Bank’s non-agency RMBS would have been deemed to be other-than-temporarily impaired under the more stressful housing price scenario.

While substantially all of the Bank's RMBS portfolio is comprised of collateralized mortgage obligations ("CMOs") with variable-rate coupons ($1.3 billion par value at March 31, 2019) that do not expose it to interest rate risk if interest rates rise moderately, these securities include caps that would limit increases in the variable-rate coupons if short-term interest rates rise above the caps. In addition, if interest rates rise, prepayments on the mortgage loans underlying the securities would likely decline, thus lengthening the time that the securities would remain outstanding with their coupon rates capped. As of March 31, 2019, one-month LIBOR was 2.49 percent and the effective interest rate caps on one-month LIBOR (the interest cap rate minus the stated spread on the coupon) embedded in the CMO floaters ranged from 5.95 percent to 10.73 percent. The largest concentration of embedded effective caps ($946 million) was between 6.00 percent and 6.50 percent. As of March 31, 2019, one-month LIBOR rates were 346 basis points below the lowest effective interest rate cap embedded in the CMO floaters. To hedge a portion of the potential cap risk embedded in these securities, the Bank held one $750 million interest rate cap with a strike rate of 6.50 percent and final maturity in August 2021. The notional balance of this cap declines by $250 million in August 2019 and again in August 2020, to $500 million and $250 million, respectively. If three-month LIBOR rises above 6.50 percent, the Bank will be entitled to receive interest payments according to the terms and conditions of the interest rate cap agreement. These payments would be based upon the notional amount of the agreement (at that time) and the difference between 6.50 percent and three-month LIBOR.

Mortgage Loans Held For Portfolio

As of March 31, 2019 and December 31, 2018, mortgage loans held for portfolio (net of allowance for credit losses) were $2.6 billion and $2.2 billion, respectively, representing approximately 3.8 percent and 3.0 percent, respectively, of the Bank’s total assets at each of those dates. Through the MPF program, the Bank currently invests in only conventional residential mortgage loans originated by its Participating Financial Institutions ("PFIs"). During the period from 1998 to mid-2003, the Bank purchased conventional mortgage loans and government-guaranteed/insured mortgage loans (i.e., those insured or guaranteed by the Federal Housing Administration or the Department of Veterans Affairs). The Bank resumed acquiring conventional mortgage loans under this program in early 2016. Approximately $2.522 billion of the $2.537 billion (unpaid principal balance) of mortgage loans on the Bank's balance sheet at March 31, 2019 were conventional loans, almost all of which were acquired since 2016. The remaining $15 million (unpaid principal balance) of the mortgage loan portfolio is comprised of government-guaranteed or government-insured loans that were acquired during the period from 1998 to mid-2003.

During the three months ended March 31, 2019, the Bank acquired mortgage loans totaling $444 million ($435 million unpaid principal balance). All of the acquired mortgage loans were originated by certain of the Bank's PFIs and the Bank acquired a 100 percent interest in such loans.

The Bank manages the liquidity, interest rate and prepayment risk of these loans, while the PFIs or their designees retain the servicing activities. The Bank and the PFIs share in the credit risk of the loans with the Bank assuming a limited first loss obligation defined as the First Loss Account (“FLA”), and the PFIs assuming credit losses in excess of the FLA, up to the amount of the required credit enhancement obligation ("CE Obligation") as specified in the master agreement (“Second Loss Credit Enhancement”). The FLA is a memo account that is used to track the Bank's exposure to losses until the CE Obligation is available to cover losses. The CE Obligation is the amount of credit enhancement needed for a master commitment to have

an estimated rating that is equivalent to an investment grade rated MBS. Credit enhancement levels are set by the Bank using an NRSRO model and are currently set at a triple-B equivalent. The Bank assumes all losses in excess of the Second Loss Credit Enhancement.

Under the Finance Agency's Acquired Member Asset regulation (12 C.F.R. part 1268) ("AMA Regulation"), any portion of the CE Obligation that is a PFI's direct liability must be collateralized by the PFI in the same way that advances are collateralized. Accordingly, the PFI Agreement provides that the PFI's obligations under the PFI Agreement are secured along with other obligations of the PFI under its regular advances agreement with the Bank and, further, that the Bank may request additional collateral to secure the PFI's obligations. PFIs are paid credit enhancement fees ("CE fees") as compensation for retaining a portion of the credit risk on the loans sold to the Bank, as an incentive to minimize credit losses on those loans, to share in the risk of loss on MPF loans and, in limited cases related to loans acquired prior to 2016, to pay for supplemental mortgage insurance, rather than paying a guaranty fee to other secondary market purchasers. CE fees are paid monthly and are determined based on the remaining unpaid principal balance of the MPF loans during the applicable month. CE fees are recorded as a reduction to mortgage loan interest income when paid by the Bank. Mortgage loan interest income was reduced by CE fees totaling $452,000 and $239,000 during the three months ended March 31, 2019 and 2018, respectively. The Bank's allowance for loan losses, which factors in the CE obligation, was $611,000 and $493,000 at March 31, 2019 and December 31, 2018, respectively.

Over time, the Bank expects to increase the balance of its mortgage loan portfolio to an amount that approximates 10 percent of its total assets. For the foreseeable future, the Bank intends to acquire a 100 percent interest in the mortgage loans that it purchases from its PFIs.

Consolidated Obligations and Deposits

During the three months ended March 31, 2019, the Bank's outstanding consolidated obligation bonds (at par value) decreased by $5.3 billion and its outstanding consolidated obligation discount notes increased by $1.6 billion. The following table presents the composition of the Bank's outstanding bonds at March 31, 2019 and December 31, 2018.

COMPOSITION OF CONSOLIDATED OBLIGATION BONDS OUTSTANDING
(par value, dollars in millions)

	March 31, 2019		December 31, 2018	
	Balance	Percentage of Total	Balance	Percentage of Total
Fixed-rate				
Non-callable	$ 12,387	46.2%	$ 10,558	32.9%
Callable	5,209	19.4	5,049	15.7
Variable-rate	5,248	19.6	10,030	31.2
Step-up				
Callable	3,622	13.5	6,127	19.1
Non-callable	75	0.3	75	0.2
Callable step-down	275	1.0	275	0.9
Total par value	$ 26,816	100.0%	$ 32,114	100.0%

During the first three months of 2019, the Bank issued $4.4 billion of consolidated obligation bonds and approximately $36.7 billion of consolidated obligation discount notes (excluding those with overnight terms), the proceeds of which were used primarily to replace maturing or called consolidated obligation bonds and maturing discount notes. At March 31, 2019 and December 31, 2018, discount notes comprised approximately 58 percent and 53 percent, respectively, of the Bank's total outstanding consolidated obligations. During the three months ended March 31, 2019, the Bank's bond issuance (based on trade date and par value) consisted of approximately $2.3 billion of fixed-rate non-callable bonds (most of which were swapped), $1.8 billion of swapped fixed-rate callable bonds (including step-up bonds), and $0.5 billion of variable-rate bonds. At March 31, 2019, the Bank had $0.6 billion of outstanding variable-rate bonds indexed to SOFR.

The weighted average cost of swapped and variable-rate consolidated obligation bonds issued by the Bank approximated LIBOR minus 16 basis points during the three months ended March 31, 2019, compared to LIBOR minus 15 basis points during the three months ended December 31, 2018 and LIBOR minus 22 basis points during the three months ended March 31, 2018.

The cost of the Bank's discount notes increased during the first three months of 2019 as a result of the increase in the target federal funds rate at the end of 2018.

Demand and term deposits were $792 million and $964 million at March 31, 2019 and December 31, 2018, respectively. The size of the Bank's deposit base varies as market factors change, including the attractiveness of the Bank's deposit pricing relative to the rates available to members on alternative money market investments, members' investment preferences with respect to the maturity of their investments, and member liquidity.

Capital

The Bank's outstanding capital stock (excluding mandatorily redeemable capital stock) was $2.4 billion and $2.6 billion at March 31, 2019 and December 31, 2018, respectively. The Bank's average outstanding capital stock (excluding mandatorily redeemable capital stock) increased from $2.5 billion for the year ended December 31, 2018 to $2.6 billion for the three months ended March 31, 2019.

Mandatorily redeemable capital stock outstanding at March 31, 2019 and December 31, 2018 was $7.8 million and $7.0 million, respectively. Although mandatorily redeemable capital stock is excluded from capital (equity) for financial reporting purposes, it is considered capital for regulatory purposes.

At March 31, 2019 and December 31, 2018, the Bank's five largest shareholders collectively held $656 million and $667 million, respectively, of capital stock, which represented 26.9 percent and 26.0 percent, respectively, of the Bank's total outstanding capital stock (including mandatorily redeemable capital stock) as of those dates. The following table presents the Bank's five largest shareholders as of March 31, 2019.

FIVE LARGEST SHAREHOLDERS AS OF MARCH 31, 2019
(par value, dollars in thousands)

Name	Par Value of Capital Stock	Percent of Total Par Value of Capital Stock
Comerica Bank	$ 179,200	7.3%
Texas Capital Bank, N.A.	154,600	6.3
American General Life Insurance Company	140,193	5.8
Iberiabank	107,121	4.4
Life Insurance Company of the Southwest	75,338	3.1
	$ 656,452	26.9%

As of March 31, 2019, all of the stock held by the five institutions shown in the table above was classified as capital in the statement of condition.

The following table presents outstanding capital stock, by type of institution, as of March 31, 2019 and December 31, 2018.

CAPITAL STOCK OUTSTANDING BY INSTITUTION TYPE
(par value, dollars in millions)

	March 31, 2019		December 31, 2018	
	Par Value of Capital Stock	Percent of Total Par Value of Capital Stock	Par Value of Capital Stock	Percent of Total Par Value of Capital Stock
Commercial banks	$ 1,579	65%	$ 1,661	65%
Insurance companies	339	14	333	13
Credit unions	289	12	309	12
Savings institutions	223	9	251	10
Community Development Financial Institutions	1	—	1	—
Total capital stock classified as capital	2,431	100	2,555	100
Mandatorily redeemable capital stock	8	—	7	—
Total regulatory capital stock	$ 2,439	100%	$ 2,562	100%

Members are required to maintain an investment in Class B Stock equal to the sum of a membership investment requirement and an activity-based investment requirement. The membership investment requirement is currently 0.04 percent of each member's total assets as of the previous calendar year-end, subject to a minimum of $1,000 and a maximum of $7,000,000. The

activity-based investment requirement is currently 4.1 percent of outstanding advances, except for advances that were funded under the Bank's special reduced stock advances offering that ran from October 21, 2015 through December 31, 2015. The activity-based investment requirement for those advances was (and continues to be) 2.0 percent of the outstanding advances. At March 31, 2019, these advances totaled approximately $1.1 billion. Class B-1 Stock is used to meet the membership investment requirement and Class B-2 Stock is used to meet the activity-based investment requirement.

Quarterly, the Bank generally repurchases a portion of members' excess capital stock. Excess capital stock is defined as the amount of stock held by a member (or former member) in excess of that institution's minimum investment requirement. The portion of members' excess capital stock subject to repurchase is known as surplus stock. For the repurchase that occurred during the three months ended March 31, 2019, surplus stock was defined as the amount of stock held by a member shareholder in excess of 125 percent of the shareholder's minimum investment requirement. For that repurchase, which occurred on March 26, 2019, a shareholder's surplus stock was not repurchased if: (1) the amount of that shareholder's surplus stock was $2,500,000 or less; (2) the shareholder elected to opt-out of the repurchase; or (3) the shareholder was on restricted collateral status (subject to certain exceptions). On March 26, 2019, the Bank repurchased surplus stock totaling $202.5 million, none of which was classified as mandatorily redeemable capital stock at that date.

On March 26, 2019, the Bank also repurchased all excess stock held by non-member shareholders as of that date. This excess stock, all of which was classified as mandatorily redeemable capital stock at that date, totaled $1.6 million.

At March 31, 2019, the Bank's excess stock totaled $650.1 million, which represented 0.94 percent of the Bank's total assets as of that date.

During the three months ended March 31, 2019, the Bank's retained earnings increased by $40 million, from $1.081 billion to $1.121 billion. During this same period, the Bank paid dividends on capital stock totaling $19.1 million, which represented a weighted average annualized dividend rate of 2.96 percent. The Bank's first quarter dividends on Class B-1 Stock and Class B-2 Stock were paid at annualized rates of 2.35 percent (a rate equal to average one-month LIBOR for the fourth quarter of 2018) and 3.35 percent (a rate equal to average one-month LIBOR for the fourth quarter of 2018 plus 1.0 percent), respectively. The first quarter dividends, which were applied to average Class B-1 Stock and average Class B-2 Stock held during the period from October 1, 2018 through December 31, 2018, were paid on March 27, 2019.

While there can be no assurances, taking into consideration its current earnings expectations and anticipated market conditions, the Bank currently expects to pay quarterly dividends on Class B-1 Stock during the remainder of 2019 at annualized rates equal to average one-month LIBOR for the applicable dividend periods. Further, the Bank currently expects to pay quarterly dividends on Class B-2 Stock during the remainder of 2019 at annualized rates equal to average one-month LIBOR for the applicable dividend periods plus 1.0 percent.

The Bank is required to maintain at all times permanent capital in an amount at least equal to its risk-based capital requirement, which is the sum of its credit risk capital requirement, its market risk capital requirement, and its operations risk capital requirement, as further described in the 2018 10-K. Permanent capital is defined under the Finance Agency's rules as retained earnings and amounts paid in for Class B stock (which for the Bank includes both Class B-1 Stock and Class B-2 Stock), regardless of its classification as equity or liabilities for financial reporting purposes. At March 31, 2019, the Bank's total risk-based capital requirement was $1.045 billion, comprised of credit risk, market risk and operations risk capital requirements of $462 million, $342 million and $241 million, respectively, and its permanent capital was $3.560 billion.

In addition to the risk-based capital requirement, the Bank is subject to two other capital requirements. First, the Bank must, at all times, maintain a minimum total capital-to-assets ratio of 4.0 percent. For this purpose, total capital is defined by Finance Agency rules and regulations as the Bank's permanent capital and the amount of any general allowance for losses (i.e., those reserves that are not held against specific assets). Second, the Bank is required to maintain at all times a minimum leverage capital-to-assets ratio in an amount at least equal to 5.0 percent of its total assets. In applying this requirement to the Bank, leverage capital includes the Bank's permanent capital multiplied by a factor of 1.5 plus the amount of any general allowance for losses. The Bank did not have any general allowance for losses at March 31, 2019 or December 31, 2018. Under the regulatory definitions, total capital and permanent capital exclude accumulated other comprehensive income (loss). At all times during the three months ended March 31, 2019, the Bank was in compliance with all of its regulatory capital requirements. At March 31, 2019, the Bank's total capital-to-assets and leverage capital-to-assets ratios were 5.16 percent and 7.73 percent, respectively. For a summary of the Bank's compliance with the Finance Agency's capital requirements as of March 31, 2019 and December 31, 2018, see "Item 1. Financial Statements" (specifically, Note 13 on page 31 of this report).

Derivatives and Hedging Activities

The Bank enters into interest rate swap, swaption, cap, floor and forward rate agreements (collectively, interest rate exchange agreements) to manage its exposure to changes in interest rates and/or to adjust the effective maturity, repricing index and/or frequency or option characteristics of financial instruments. This use of derivatives is integral to the Bank's financial management strategy, and the impact of these interest rate exchange agreements permeates the Bank's financial statements. For additional discussion, see "Item 1. Financial Statements" (specifically, Note 12 beginning on page 24 of this report).

The following table provides the notional balances of the Bank's derivative instruments, by balance sheet category and accounting designation, as of March 31, 2019 and December 31, 2018.

COMPOSITION OF DERIVATIVES BY BALANCE SHEET CATEGORY AND ACCOUNTING DESIGNATION
(in millions)

	Fair Value Hedges				
	Shortcut Method	Long-Haul Method	Cash Flow Hedges	Economic Hedges	Total
March 31, 2019					
Advances	$ 6,838	$ 600	$ —	$ —	$ 7,438
Investments	—	15,941	—	1,916	17,857
Mortgage loans held for portfolio	—	—	—	399	399
Consolidated obligation bonds	—	17,154	—	—	17,154
Consolidated obligation discount notes	—	—	913	—	913
Intermediary positions	—	—	—	1,541	1,541
Other	—	—	—	425	425
Total notional balance	$ 6,838	$ 33,695	$ 913	$ 4,281	$ 45,727
December 31, 2018					
Advances	$ 6,565	$ 606	$ —	$ 2	$ 7,173
Investments	—	15,982	—	2,716	18,698
Mortgage loans held for portfolio	—	—	—	348	348
Consolidated obligation bonds	—	19,824	—	—	19,824
Consolidated obligation discount notes	—	—	865	—	865
Intermediary positions	—	—	—	1,769	1,769
Other	—	—	—	425	425
Total notional balance	$ 6,565	$ 36,412	$ 865	$ 5,260	$ 49,102

As a result of statutory and regulatory requirements emanating from the Dodd-Frank Wall Street Reform and Consumer Protection Act (the "Dodd-Frank Act"), certain derivative transactions that the Bank enters into are required to be cleared through a third-party central clearinghouse. As of March 31, 2019, the Bank had cleared trades outstanding with notional amounts totaling $29.8 billion. Cleared trades are subject to initial and variation margin requirements established by the clearinghouse and its clearing members. Collateral (or variation margin on daily settled derivative contracts) is typically delivered/paid (or returned/received) daily and, unlike bilateral derivatives, is not subject to any maximum unsecured credit exposure thresholds. The fair values of all interest rate derivatives (including accrued interest receivables and payables) with each clearing member of each clearinghouse are offset for purposes of measuring credit exposure and determining initial and variation margin requirements. With cleared transactions, the Bank is exposed to credit risk in the event that the clearinghouse or the clearing member fails to meet its obligations to the Bank. The Bank has determined that the exercise by a non-defaulting party of the setoff rights incorporated in its cleared derivative transactions should be upheld in the event of a default, including a bankruptcy, insolvency or similar proceeding involving the clearinghouse or any of its clearing members or both.

The Bank has transacted some of its interest rate exchange agreements bilaterally with large financial institutions (with which it has in place master agreements). In doing so, the Bank has generally exchanged a defined market risk for the risk that the counterparty will not be able to fulfill its obligations in the future. The Bank manages this credit risk by spreading its transactions among as many highly rated counterparties as is practicable, by entering into master agreements with each of its non-member bilateral counterparties that include maximum unsecured credit exposure thresholds ranging from $50,000 to

$500,000, and by monitoring its exposure to each counterparty on a daily basis. In addition, all of the Bank's master agreements with its bilateral counterparties include netting arrangements whereby the fair values of all interest rate derivatives (including accrued interest receivables and payables) with each counterparty are offset for purposes of measuring credit exposure. As of March 31, 2019, the notional balances of outstanding interest rate exchange agreements transacted with non-member bilateral counterparties totaled $15.1 billion.

Under the Bank's master agreements with its non-member bilateral counterparties, the unsecured credit exposure thresholds must be met before collateral is required to be delivered by one party to the other party. Once the counterparties agree to the valuations of the interest rate exchange agreements, and if it is determined that the unsecured credit exposure exceeds the threshold, then, upon a request made by the unsecured counterparty, the party that has the unsecured obligation to the counterparty bearing the risk of the unsecured credit exposure generally must deliver sufficient collateral (or return a sufficient amount of previously remitted collateral) to reduce the unsecured credit exposure to zero (or, in the case of pledged securities, to an amount equal to the discount applied to the securities under the terms of the master agreement). Collateral is delivered (or returned) daily when these thresholds are met. The master agreements with the Bank's non-member bilateral counterparties require the delivery of collateral consisting of cash or very liquid, highly rated securities (generally consisting of U.S. government-guaranteed or agency debt securities) if credit risk exposures rise above the thresholds.

The notional amount of interest rate exchange agreements does not reflect the Bank's credit risk exposure, which is much less than the notional amount. The Bank's net credit risk exposure is based on the current estimated cost, on a present value basis, of replacing at current market rates all interest rate exchange agreements with individual counterparties, if those counterparties were to default, after taking into account the value of any cash and/or securities collateral held or remitted by the Bank. For counterparties with which the Bank is in a net gain position, the Bank has credit exposure when the collateral it is holding (if any) has a value less than the amount of the gain. For counterparties with which the Bank is in a net loss position, the Bank has credit exposure when it has delivered collateral with a value greater than the amount of the loss position.

The following table provides information regarding the Bank's derivative counterparty credit exposure as of March 31, 2019.

DERIVATIVES COUNTERPARTY CREDIT EXPOSURE
(dollars in millions)

Credit Rating[1]	Number of Bilateral Counterparties	Notional Principal[2]	Net Derivatives Fair Value Before Collateral	Cash Collateral Pledged To (From) Counterparty	Other Collateral Pledged To Counterparty	Net Credit Exposure
Non-member counterparties						
Asset positions with credit exposure						
Double-A	1	$ 590.0	$ 1.5	$ (1.4)	$ —	$ 0.1
Cleared derivatives [3]	—	20,008.9	44.0	—	697.0	741.0
Liability positions with credit exposure						
Double-A	1	110.0	(0.7)	0.8	—	0.1
Single-A	2	91.7	(2.9)	3.2	—	0.3
Triple-B [4]	3	5,320.2	(75.1)	78.8	—	3.7
Cleared derivatives [5]	—	9,797.9	(5.4)	—	45.6	40.2
Total derivative positions with non-member counterparties to which the Bank had credit exposure	7	35,918.7	(38.6)	81.4	742.6	785.4
Asset positions without credit exposure	3	1,488.5	7.6	(8.0)	—	—
Liability positions without credit exposure [4]	11	7,526.3	(49.2)	43.6	—	—
Total derivative positions with non-member counterparties to which the Bank did not have credit exposure	14	9,014.8	(41.6)	35.6	—	—
Total non-member counterparties	21	44,933.5	(80.2)	$ 117.0	$ 742.6	$ 785.4
Member institutions						
Interest rate exchange agreements [6]						
Asset positions	5	59.3	4.0			
Liability positions	3	711.1	(8.7)			
Mortgage delivery commitments	—	23.1	0.1			
Total member institutions	8	793.5	(4.6)			
Total	29	$ 45,727.0	$ (84.8)			

(1) Credit ratings shown in the table reflect the lowest rating from Moody's or S&P and are as of March 31, 2019.

(2) Includes amounts that had not settled as of March 31, 2019.

(3) This clearinghouse counterparty is rated single-A.

(4) The figures for the liability positions with credit exposure for the triple-B rated counterparties included transactions with an entity that is affiliated with a non-member shareholder of the Bank. Transactions with that counterparty had an aggregate notional principal of $676 million and a credit exposure of $1 million as of March 31, 2019. The figures for the liability positions without credit exposure included transactions with a counterparty that is affiliated with the same non-member shareholder of the Bank and transactions with another counterparty that is affiliated with a member institution. Transactions with those counterparties had an aggregate notional principal of $872 million as of March 31, 2019.

(5) This clearinghouse counterparty is rated double-A.

(6) This product offering and the collateral provisions associated therewith are discussed in the paragraph below.

The Bank offers interest rate swaps, caps and floors to its members to assist them in meeting their risk management objectives. In derivative transactions with its members, the Bank acts as an intermediary by entering into an interest rate exchange agreement with the member and then entering into an offsetting interest rate exchange agreement with one of the Bank's non-member derivative counterparties discussed above. When entering into interest rate exchange agreements with its members, the Bank requires the member to post eligible collateral in an amount equal to the sum of the net market value of the member's derivative transactions with the Bank (if the value is positive to the Bank) plus a percentage of the notional amount of any interest rate swaps, with market values determined on at least a monthly basis. Eligible collateral for derivative transactions

consists of collateral that is eligible to secure advances and other obligations under the member's Advances and Security Agreement with the Bank.

The Dodd-Frank Act changed the regulatory framework for derivative transactions that are not subject to mandatory clearing requirements (uncleared trades). While the Bank expects to be able in certain instances to continue to enter into uncleared trades on a bilateral basis, those transactions will be subject to new regulatory requirements, including minimum initial margin requirements imposed by regulators. For additional discussion, see Item 1 - Business - Legislative and Regulatory Developments in the 2018 10-K.

Market Value of Equity

The ratio of the Bank's estimated market value of equity to its book value of equity was approximately 101 percent and 100 percent at March 31, 2019 and December 31, 2018, respectively. For additional discussion, see "Part I / Item 3 — Quantitative and Qualitative Disclosures About Market Risk — Interest Rate Risk."

Results of Operations

Net Income

Net income for the three months ended March 31, 2019 and 2018 was $58.4 million and $41.7 million, respectively. The Bank's net income for the three months ended March 31, 2019 represented an annualized return on average capital stock ("ROCS") of 9.28 percent. In comparison, the Bank's ROCS was 6.99 percent for the three months ended March 31, 2018. To derive the Bank's ROCS, net income is divided by average capital stock outstanding excluding stock that is classified as mandatorily redeemable capital stock. The factors contributing to the changes in the Bank's net income are discussed below.

Income Before Assessments

During the three months ended March 31, 2019 and 2018, the Bank's income before assessments was $64.9 million and $46.3 million, respectively. As discussed in more detail below, the $18.6 million increase in income before assessments from period to period was attributable to a $3.9 million increase in net interest income and a $14.7 million increase in other income, each of which was impacted by an accounting change that took effect on January 1, 2019. The components of income before assessments (net interest income, other income/loss and other expense) are discussed in more detail in the following sections.

Net Interest Income

For the three months ended March 31, 2019, the Bank's net interest income (after provision for mortgage loan losses) was $72.0 million compared to net interest income of $68.1 million for the comparable period in 2018. The increase in net interest income for the three-month period ended March 31, 2019, as compared to the corresponding period in 2018, was due primarily to an increase in the average balances of the Bank's interest-earning assets and an increase in the impact of the Bank's non-interest bearing funds, offset in large part by the accounting change, the impact of which reduced net interest income by $9.340 million during the three months ended March 31, 2019. The Bank's average balance of interest-earning assets increased from $64.9 billion during the three months ended March 31, 2018 to $68.1 billion during the comparable period in 2019.

For both the three months ended March 31, 2019 and 2018, the Bank's net interest margin was 42 basis points. Net interest margin, or net interest income as a percentage of average earning assets, is a function of net interest spread and the rates of return on assets funded by the investment of the Bank's capital. Net interest spread is the difference between the yield on interest-earning assets and the cost of interest-bearing liabilities. The Bank's net interest spread was 26 basis points and 34 basis points for the three months ended March 31, 2019 and 2018, respectively. The decline in the Bank's net interest spread was due largely to the adoption of Accounting Standards Update 2017-12, *"Targeted Improvements to Accounting for Hedging Activities"* ("ASU 2017-12") on January 1, 2019. As discussed in Item 1. Financial Statements" (specifically, Note 2 beginning on page 7 of this report), ASU 2017-12 requires that, for fair value hedges, the entire change in the fair value of the hedging instrument included in the assessment of hedge effectiveness along with the changes in the fair value of the hedged item attributable to the hedged risk be presented in the same income statement line that is used to present the earnings effect of the hedged item. The amounts reported in net interest income, which would have been reported in other income (loss) in the absence of the new guidance, reduced interest income on advances and available-for-sale securities by $27,000 and $9,569,000, respectively, and reduced interest expense on consolidated obligations by $256,000.

The contribution of earnings from the Bank's invested capital to the net interest margin (the impact of non-interest bearing funds) was 16 basis points during the three months ended March 31, 2019 compared to 8 basis points during the three months ended March 31, 2018. The increase in the impact of non-interest bearing funds is primarily due to the increase in short-term interest rates between the comparable periods, as well as an increase in the average balance of earning assets funded by the Bank's capital.

The following table presents average balance sheet amounts together with the total dollar amounts of interest income and expense and the weighted average interest rates of major earning asset categories and the funding sources for those earning assets for the three months ended March 31, 2019 and 2018.

YIELD AND SPREAD ANALYSIS
(dollars in millions)

	For the Three Months Ended March 31,					
	2019			2018		
	Average Balance	Interest Income/ Expense	Average Rate(1)	Average Balance	Interest Income/ Expense	Average Rate(1)
Assets						
Interest-bearing deposits (2)	$ 1,785	$ 11	2.53%	$ 187	$ 1	1.67%
Securities purchased under agreements to resell	4,036	25	2.54%	1,865	7	1.56%
Federal funds sold	3,039	19	2.47%	8,035	29	1.46%
Investments						
Trading	3,462	18	2.08%	100	1	2.27%
Available-for-sale (3)	15,662	119	3.04%	14,285	80	2.24%
Held-to-maturity (3)	1,452	11	3.04%	1,922	10	2.13%
Advances (4)	36,325	238	2.62%	37,592	157	1.67%
Mortgage loans held for portfolio	2,320	23	3.98%	954	9	3.62%
Total earning assets	68,081	464	2.73%	64,940	294	1.81%
Cash and due from banks	44			37		
Other assets	282			182		
Derivatives netting adjustment (2)	(147)			(255)		
Fair value adjustment on available-for-sale securities (3)	137			253		
Adjustment for net non-credit portion of other-than-temporary impairments on held-to-maturity securities (3)	(10)			(13)		
Total assets	$ 68,387	464	2.71%	$ 65,144	294	1.80%
Liabilities and Capital						
Interest-bearing deposits (2)	$ 826	5	2.42%	$ 865	3	1.31%
Consolidated obligations						
Bonds	29,854	191	2.56%	32,687	128	1.57%
Discount notes	32,871	196	2.39%	27,593	95	1.37%
Mandatorily redeemable capital stock and other borrowings	8	—	2.87%	22	—	1.52%
Total interest-bearing liabilities	63,559	392	2.47%	61,167	226	1.47%
Other liabilities	1,168			578		
Derivatives netting adjustment (2)	(147)			(255)		
Total liabilities	64,580	392	2.43%	61,490	226	1.47%
Total capital	3,807			3,654		
Total liabilities and capital	$ 68,387		2.29%	$ 65,144		1.38%
Net interest income		$ 72			$ 68	
Net interest margin			0.42%			0.42%
Net interest spread			0.26%			0.34%
Impact of non-interest bearing funds			0.16%			0.08%

(1) Percentages are annualized figures. Amounts used to calculate average rates are based on whole dollars. Accordingly, recalculations based upon the disclosed amounts (millions) may not produce the same results.

(2) The Bank offsets the fair value amounts recognized for the right to reclaim cash collateral or the obligation to return cash collateral against the fair value amounts recognized for derivative instruments transacted under a master netting agreement or other similar arrangement. The average balances of interest-bearing deposit assets for the three months ended March 31, 2019 and 2018 in the table above include $134 million and $186 million, respectively, which are classified as derivative assets/liabilities on the statements of condition. In addition, the average balances of interest-bearing deposit liabilities for the three months ended March 31, 2019 and 2018 in the table above include $12 million and $68 million, respectively, which are classified as derivative assets/liabilities on the statements of condition.

(3) Average balances for available-for-sale and held-to-maturity securities are calculated based upon amortized cost.

(4) Interest income and average rates include net prepayment fees on advances.

Changes in both volume (i.e., average balances) and interest rates influence changes in net interest income and net interest margin. The following table summarizes changes in interest income and interest expense between the three-month periods ended March 31, 2019 and 2018. Changes in interest income and interest expense that cannot be attributed to either volume or rate have been allocated to the volume and rate categories based upon the proportion of the absolute value of the volume and rate changes.

RATE AND VOLUME ANALYSIS

(in millions)

	For the Three Months Ended March 31, 2019 vs. 2018		
	Volume	**Rate**	**Total**
Interest income			
Interest-bearing deposits	$ 10	$ —	$ 10
Securities purchased under agreements to resell	12	6	18
Federal funds sold	(24)	14	(10)
Investments			
Trading	17	—	17
Available-for-sale	8	31	39
Held-to-maturity	(3)	4	1
Advances	(5)	86	81
Mortgage loans held for portfolio	14	—	14
Total interest income	29	141	170
Interest expense			
Interest-bearing deposits	—	2	2
Consolidated obligations			
Bonds	(12)	75	63
Discount notes	21	80	101
Mandatorily redeemable capital stock and other borrowings	—	—	—
Total interest expense	9	157	166
Changes in net interest income	$ 20	$ (16)	$ 4

Other Income (Loss)

The following table presents the various components of other income (loss) for the three months ended March 31, 2019 and 2018.

OTHER INCOME (LOSS)
(in thousands)

	Three Months Ended March 31,	
	2019	**2018**
Net interest income (expense) associated with:		
Member/offsetting derivatives	$ 62	$ 117
Economic hedge derivatives related to advances	—	2
Economic hedge derivatives related to trading securities	76	—
Economic hedge derivatives related to available-for-sale securities	(147)	(3)
Economic hedge derivatives related to mortgage loans held for portfolio	(165)	16
Other stand-alone economic hedge derivatives	(849)	43
Total net interest income (expense) associated with economic hedge derivatives	(1,023)	175
Gains (losses) related to economic hedge derivatives		
Interest rate swaps		
Advances	—	26
Available-for-sale securities	90	83
Trading securities	(604)	—
Mortgage loans held for portfolio	(296)	(167)
Other stand-alone economic hedge derivatives	9,426	(8,834)
Interest rate swaptions related to mortgage loans held for portfolio	(229)	—
Mortgage delivery commitments	1,261	51
Interest rate caps related to held-to-maturity securities	(5)	11
Member/offsetting swaps, caps and floors	39	(136)
Total fair value gains (losses) related to economic hedge derivatives	9,682	(8,966)
Price alignment amount on daily settled derivative contracts	107	(1,291)
Gains (losses) related to fair value hedge ineffectiveness		
Advances and associated hedges	—	118
Available-for-sale securities and associated hedges	—	13,848
Consolidated obligation bonds and associated hedges	—	(2,061)
Total fair value hedge ineffectiveness	—	11,905
Total net gains on derivatives and hedging activities	8,766	1,823
Net gains (losses) on trading securities	3,227	(2,348)
Net gains on other assets carried at fair value	913	13
Gains on sales of available-for-sale securities	440	—
Service fees	542	519
Letter of credit fees	2,780	2,146
Other, net	309	121
Total other	8,211	451
Total other income	$ 16,977	$ 2,274

Fair Value Hedge Ineffectiveness

The Bank uses interest rate swaps to hedge the risk of changes in the fair value of some of its advances and consolidated obligation bonds and, currently, all of its available-for-sale securities. These hedging relationships are designated as fair value hedges. To the extent these relationships qualify for hedge accounting, changes in the fair values of both the derivative (the interest rate swap) and the hedged item (limited to changes attributable to the hedged risk) are recorded in earnings. Prior to January 1, 2019, these amounts were recorded in other income (loss) as net gains (losses) on derivatives and hedging activities. Effective January 1, 2019, these amounts are recorded in net interest income in the same income statement line that is used to present the earnings effect of the hedged item. For those relationships that qualified for hedge accounting, the differences between the change in fair value of the hedged items and the change in fair value of the associated interest rate swaps (representing hedge ineffectiveness) were net gains (losses) of $(8.0) million and $11.9 million for the three months ended March 31, 2019 and 2018, respectively. To the extent that the Bank's fair value hedging relationships do not qualify for hedge accounting, or cease to qualify because they are determined to be ineffective, only the change in fair value of the derivative is recorded in earnings as net gains (losses) on derivatives and hedging activities (in this case, there is no offsetting change in fair value of the hedged item). For the three months ended March 31, 2019 and 2018, the net gains (losses) on derivatives associated with specific advances, available-for-sale securities and consolidated obligation bonds that did not qualify for hedge accounting, or ceased to qualify because they were determined to be ineffective, totaled $90,000 and $109,000 for the three months ended March 31, 2019 and 2018, respectively.

The addition of higher yielding, longer duration fixed-rate GSE CMBS and GSE debentures to the Bank’s available-for-sale securities portfolio since 2014 (all of which have been hedged with fixed-for-floating interest rate swaps in long-haul hedging relationships) has generally increased its exposure to periodic earnings variability in the form of fair value hedge ineffectiveness. The hedge ineffectiveness gains and losses associated with these particular relationships are attributable in large part to the use of different discount curves to value the interest rate swaps (OIS) and the GSE CMBS/GSE debentures (LIBOR plus a constant spread). Notwithstanding the hedge ineffectiveness gains and losses, these hedging relationships have been, and are expected to continue to be, highly effective in achieving offsetting changes in fair values attributable to the hedged risk. While the ineffectiveness-related gains and losses associated with these hedging relationships can be significant when evaluated in the context of the Bank’s net income, they are relatively small when expressed as a percentage of the values of the positions. Because the Bank expects to hold these interest rate swaps to maturity, the unrealized ineffectiveness-related gains (or losses) associated with its holdings of GSE CMBS and GSE debentures are expected to be transitory, meaning that they will reverse in future periods in the form of ineffectiveness-related losses (or gains).

Economic Hedge Derivatives

Notwithstanding the transitory nature of the ineffectiveness-related gains and losses associated with the Bank's available-for-sale securities portfolio (discussed above), the Bank has entered into several derivative transactions in an effort to mitigate a portion of the periodic earnings variability that can result from those fair value hedging relationships. For the three months ended March 31, 2019 and 2018, the gains (losses) associated with stand-alone economic hedge derivatives used for this purpose were $9.4 million and $(8.8) million, respectively.

As discussed previously in the section entitled “Financial Condition — Derivatives and Hedging Activities," the Bank offers interest rate swaps, caps and floors to its members to assist them in meeting their risk management objectives. In derivative transactions with its members, the Bank acts as an intermediary by entering into an interest rate exchange agreement with the member and then entering into an offsetting interest rate exchange agreement with one of the Bank’s non-member derivative counterparties. The net change in the fair values of derivatives transacted with members and the offsetting derivatives was $39,000 and $(136,000) for the three months ended March 31, 2019 and 2018, respectively.

Price Alignment Amount

Effective January 3, 2017, one of the Bank's two clearinghouse counterparties made certain amendments to its rulebook that changed the legal characterization of variation margin payments on cleared derivatives to settlements on the contracts. Effective January 16, 2018, the Bank's other clearinghouse counterparty made similar amendments to its rulebook. Prior to the dates upon which these amendments became effective, the variation margin payments were in each case characterized as collateral pledged to secure outstanding credit exposure on the derivative contracts. The Bank receives or pays a price alignment amount on the cumulative variation margin payments associated with these contracts. The price alignment amount approximates the amount of interest the Bank would have received or paid had the variation margin payments continued to be characterized as collateral. Prior to January 1, 2019, the price alignment amount was recorded in other income (loss) as gains (losses) on derivatives and hedging activities. Effective January 1, 2019, the price alignment amount associated with derivatives in qualifying fair value hedging relationships is recorded in net interest income in the same income statement line that is used to present the earnings effect of the hedged item. The allocated price alignment amount reduced net interest income by $1.3 million for the three months ended March 31, 2019.

Other

During the three months ended March 31, 2019, the Bank sold approximately $411 million of GSE CMBS classified as available-for-sale securities. The aggregate gains recognized on these sales totaled $0.4 million. There were no other sales of long-term investment securities during the three months ended March 31, 2019 or 2018.

During the three months ended March 31, 2019 and 2018, the Bank held a long-term, fixed-rate U.S. Treasury Note with a par value of $104.8 million that was classified as trading. In addition, during the three months ended March 31, 2019, the Bank held as part of its short-term liquidity portfolio U.S. Treasury Bills and U.S. Treasury Notes that were acquired with short remaining terms to maturity, all of which were classified as trading securities. Due to fluctuations in interest rates, the aggregate unrealized gains (losses) on the U.S. Treasury Notes and U.S. Treasury Bills were $3.2 million and $(2.3) million for the three months ended March 31, 2019 and 2018, respectively.

The Bank has a small balance of marketable equity securities consisting solely of mutual fund investments associated with its non-qualified deferred compensation plans. These securities are carried at fair value and included in other assets on the statements of condition. The fair value gains on these securities totaled $913,000 and $13,000 for the three months ended March 31, 2019 and 2018, respectively. The gains on the securities are offset by a corresponding increase in amounts owed to participants in the deferred compensation plans, the expense for which is recorded in compensation and benefits expense (in the case of employees) or other operating expenses (in the case of directors).

Letter of credit fees totaled $2.8 million for the three months ended March 31, 2019, compared to $2.1 million for the corresponding period in 2018. The increase in letter of credit fees for the three months ended March 31, 2019, as compared to the corresponding period in 2018, was due to an increase in the amount of letters of credit outstanding. At March 31, 2019 and 2018, outstanding letters of credit totaled $18.7 billion and $16.4 billion, respectively.

Other Expense

Total other expense, which includes the Bank’s compensation and benefits, other operating expenses, discretionary grants and donations, derivative clearing fees and its proportionate share of the costs of operating the Finance Agency and the Office of Finance, totaled $24.1 million for the three months ended March 31, 2019 compared to $24.0 million for the corresponding period in 2018.

Compensation and benefits were $13.6 million for the three months ended March 31, 2019 compared to $12.6 million for the corresponding period in 2018. The increase in compensation and benefits for the three months ended March 31, 2019, as compared to the corresponding period in 2018, was due largely to an increase in amounts due to employees under the Bank's non-qualified deferred compensation plans which was due to the increase in the fair value of the assets associated with those plans. The Bank's average headcount was 198 employees and 201 employees for the three months ended March 31, 2019 and 2018, respectively. At March 31, 2019, the Bank employed 199 people, an increase of 2 employees from December 31, 2018.

Other operating expenses for the three months ended March 31, 2019 were $8.0 million compared to $7.8 million for the corresponding period in 2018. The increase in other operating expenses for the three months ended March 31, 2019, as compared to the corresponding period in 2018, resulted primarily from an increase in software costs and higher transaction services fees associated with the Bank's mortgage loan program (due to higher mortgage loan balances), largely offset by a decrease in legal fees.

Discretionary grants and donations were $38,000 for the three months ended March 31, 2019 compared to $1.388 million for the corresponding period in 2018. Discretionary grants and donations for the three months ended March 31, 2018 were substantially comprised of grants and donations that were made to support recovery efforts in the areas impacted by Hurricane Harvey, as well as Economic Development Program (EDP) Plus grants, neither of which reoccurred in the first three months of 2019. Beginning in January 2019, the Bank no longer offers EDP Plus grants.

Derivative clearing fees were $0.3 million for both the three months ended March 31, 2019 and 2018.

The Bank, together with the other FHLBanks, is assessed for the costs of operating the Office of Finance and a portion of the costs of operating the Finance Agency. The Bank’s allocated share of these expenses totaled approximately $2.1 million for the three months ended March 31, 2019 as compared to $1.9 million for the corresponding period in 2018.

AHP Assessments

While the Bank is exempt from all federal, state and local income taxes, it is obligated to set aside amounts for its Affordable Housing Program (“AHP”).

As required by statute, each year the Bank contributes 10 percent of its earnings (as adjusted for interest expense on mandatorily redeemable capital stock) to its AHP. The AHP provides grants that members can use to support affordable housing projects in their communities. Generally, the Bank’s AHP assessment is derived by adding interest expense on mandatorily redeemable capital stock to income before assessments; the result of this calculation is then multiplied by 10 percent. The

Bank's AHP assessments totaled $6.5 million and $4.6 million for the three months ended March 31, 2019 and 2018, respectively.

Critical Accounting Policies and Estimates

A discussion of the Bank's critical accounting policies and the extent to which management uses judgment and estimates in applying those policies is provided in the 2018 10-K. Except for the changes to the reporting of fair value hedge ineffectiveness (as discussed in Note 2 beginning on page 7 and elsewhere in this report), there were no substantive changes to the Bank's critical accounting policies, or the extent to which management uses judgment and estimates in applying those policies, during the three months ended March 31, 2019.

Liquidity and Capital Resources

In order to meet members' credit needs and the Bank's financial obligations, the Bank maintains a portfolio of money market instruments typically consisting of overnight federal funds, overnight reverse repurchase agreements and, beginning in mid-2018, overnight interest-bearing deposits, U.S. Treasury Bills and U.S. Treasury Notes. From time to time, the Bank may also invest in short-term commercial paper and GSE discount notes. Beyond those amounts that are required to meet members' credit needs and its own obligations, the Bank typically holds additional balances of short-term investments that fluctuate as the Bank invests the proceeds of debt issued to replace maturing and called liabilities, as the balance of deposits changes, as the returns provided by short-term investments vary relative to the costs of the Bank's discount notes, and as the level of liquidity needed to satisfy Finance Agency requirements changes. At March 31, 2019, the Bank's short-term liquidity portfolio was comprised of $5.5 billion of overnight reverse repurchase agreements, $2.1 billion of overnight federal funds sold, $1.3 billion of overnight interest-bearing deposits, $1.8 billion of U.S. Treasury Bills and $1.7 billion of U.S. Treasury Notes that were acquired with short remaining terms to maturity.

The Bank's primary source of funds is the proceeds it receives from the issuance of consolidated obligation bonds and discount notes in the capital markets. Historically, the FHLBanks have issued debt throughout the business day in the form of discount notes and bonds with a wide variety of maturities and structures. Generally, the Bank has access to the capital markets as needed during the business day to acquire funds to meet its needs.

In addition to the liquidity provided from the proceeds of the issuance of consolidated obligations, the Bank also maintains access to wholesale funding sources such as federal funds purchased and securities sold under agreements to repurchase (e.g., borrowings secured by its investments in MBS and/or agency debentures). Furthermore, the Bank has access to borrowings (typically short-term) from the other FHLBanks.

The 11 FHLBanks and the Office of Finance are parties to the Federal Home Loan Banks P&I Funding and Contingency Plan Agreement, as amended and restated effective January 1, 2017 (the "Contingency Agreement"). The Contingency Agreement and related procedures are designed to facilitate the timely funding of principal and interest payments on FHLBank System consolidated obligations in the event that a FHLBank is not able to meet its funding obligations in a timely manner. The Contingency Agreement and related procedures provide for the issuance of overnight consolidated obligations ("Plan COs") directly to one or more FHLBanks that provide funds to avoid a shortfall in the timely payment of principal and interest on any consolidated obligations for which another FHLBank is the primary obligor. The direct placement by a FHLBank of consolidated obligations with another FHLBank is permitted only in those instances when direct placement of consolidated obligations is necessary to ensure that sufficient funds are available to timely pay all principal and interest on FHLBank System consolidated obligations due on a particular day. Through the date of this report, no Plan COs have ever been issued pursuant to the terms of the Contingency Agreement.

On occasion, and as an alternative to issuing new debt, the Bank may assume the outstanding consolidated obligations for which other FHLBanks are the original primary obligors. This occurs in cases where the original primary obligor may have participated in a large consolidated obligation issue to an extent that exceeded its immediate funding needs in order to facilitate better market execution for the issue. The original primary obligor might then warehouse the funds until they were needed, or make the funds available to other FHLBanks. Transfers may also occur when the original primary obligor's funding needs change, and that FHLBank offers to transfer debt that is no longer needed to other FHLBanks. Transferred debt is typically fixed-rate, fixed-term, non-callable debt, and may be in the form of discount notes or bonds.

The Bank participates in such transfers of funding from other FHLBanks when the transfer represents favorable pricing relative to a new issue of consolidated obligations with similar features. The Bank did not assume any consolidated obligations from other FHLBanks during the three months ended March 31, 2019 or 2018.

The Bank manages its liquidity to ensure that, at a minimum, it has sufficient funds to meet operational and contingent liquidity requirements. When measuring its liquidity for these purposes, the Bank includes only contractual cash flows and the amount of funds it estimates would be available in the event the Bank were to use securities held in its long-term investment portfolio

as collateral for repurchase agreements. While it believes purchased federal funds might be available as a source of funds, it does not include this potential source of funds in its calculations of available liquidity.

The Bank's operational liquidity requirement stipulates that it have sufficient funds to meet its obligations due on any given day plus an amount equal to the statistically estimated (at the 99-percent confidence level) cash and credit needs of its members and associates for one business day during a stress period of elevated advances demand without accessing the capital markets for the sale of consolidated obligations. As of March 31, 2019, the Bank's estimated operational liquidity requirement was $6.0 billion. At that date, the Bank estimated that its operational liquidity exceeded this requirement by approximately $19.7 billion.

The Bank's contingent liquidity requirement further requires that it maintain adequate balance sheet liquidity and access to other funding sources should it be unable to issue consolidated obligations for five business days during a stress period of elevated advances demand. The combination of funds available from these sources must be sufficient for the Bank to meet its obligations as they come due and the cash and credit needs of its members, with the potential needs of members statistically estimated at the 99-percent confidence level. As of March 31, 2019, the Bank's estimated contingent liquidity requirement was $11.5 billion. At that date, the Bank estimated that its contingent liquidity exceeded this requirement by approximately $17.1 billion.

In addition to the liquidity measures described above, the Bank was required (through March 30, 2019), pursuant to guidance issued by the Finance Agency, to meet two daily liquidity standards, each of which assumed that the Bank was unable to access the market for consolidated obligations during a prescribed period. The first standard required the Bank to maintain sufficient funds to meet its obligations for 15 days under a scenario in which it was assumed that members did not renew any maturing, prepaid or called advances. The second standard required the Bank to maintain sufficient funds to meet its obligations for 5 days under a scenario in which it was assumed that members renewed all maturing and called advances, with certain exceptions for very large, highly rated members. These requirements were more stringent than the 5-day contingent liquidity requirement discussed above. The Bank was in compliance with both of these liquidity requirements at all times during the period from January 1, 2019 through March 30, 2019.

Beginning on March 31, 2019, the two liquidity standards discussed in the preceding paragraph were replaced by a single, more stringent requirement. On August 23, 2018, the Finance Agency issued an Advisory Bulletin and accompanying supervisory letter that, together, set forth the Finance Agency's expectations with respect to the maintenance of sufficient liquidity to enable the FHLBanks to provide advances and fund letters of credit during a sustained capital markets disruption. More specifically, the Advisory Bulletin (hereinafter referred to as the "Liquidity AB") sets forth the Finance Agency's expectations with respect to base case liquidity and funding gaps, among other things. The Liquidity AB sets forth ranges for the prescribed base case liquidity and funding gap measures and the supervisory letter identifies the initial thresholds within those ranges that the Finance Agency believes are appropriate in light of current market conditions.

With respect to base case liquidity, the Bank is required to maintain a positive cash balance during a prescribed period of time ranging from 10 to 30 calendar days assuming no access to the market for consolidated obligations or other unsecured funding sources and the renewal of all advances that are scheduled to mature during the measurement period. Initially, the Finance Agency has indicated that it will consider a FHLBank to have adequate reserves of liquid assets if, from March 31, 2019 through December 30, 2019, it maintains 10 calendar days or more of positive daily cash balances and if, on and after December 31, 2019, it maintains 20 calendar days or more of positive daily cash balances. The supervisory letter sets forth the cash flow assumptions to be used by the FHLBanks which include, among other things, a reserve for potential draws on standby letters of credit and the inclusion of uncommitted/unencumbered U.S. Treasury securities with a remaining maturity no greater than 10 years which are classified as trading or available-for-sale securities as a cash inflow one business day after measurement. Effective March 31, 2019, the Liquidity AB rescinded the 5-day and 15-day liquidity standards discussed above. The Bank was in compliance with the 10 calendar day requirement on March 31, 2019.

Funding gaps measure the difference between a FHLBank's assets and liabilities that are scheduled to mature during a specified period, expressed as a percentage of the FHLBank's total assets. Depending on conditions in the financial markets, the Finance Agency believes (as stated in the Liquidity AB) that the FHLBanks should operate so as not to exceed a funding gap ratio between negative 10 percent and negative 20 percent for a three-month time horizon and between negative 25 percent and negative 35 percent for a one-year time horizon. These limits are designed to reduce the liquidity risks associated with a mismatch in a FHLBank's asset and liability maturities, including an undue reliance on short-term debt funding, which may increase a FHLBank's debt rollover risk. Initially, the Finance Agency will consider a FHLBank to have adequate liquidity to address funding gap risks if, on and after December 31, 2018, the FHLBank maintains a funding gap ratio of negative 15 percent or better for the three-month time horizon and negative 30 percent or better for the one-year time horizon. For purposes of calculating the funding gap ratios, the FHLBanks may include estimates of expected cash inflows, including anticipated prepayments, for mortgage loans and mortgage-backed securities. In addition, uncommitted/unencumbered U.S. Treasury securities with a remaining maturity no greater than 10 years which are classified as trading securities are treated as maturing assets in the three-month time horizon regardless of maturity. The Bank was in compliance with these limits during the three months ended March 31, 2019.

The Bank's access to the capital markets has never been interrupted to an extent that the Bank's ability to meet its obligations was compromised and the Bank does not currently believe that its ability to issue consolidated obligations will be impeded to that extent in the future. If, however, the Bank were unable to issue consolidated obligations for an extended period of time, the Bank would eventually exhaust the availability of purchased federal funds (including borrowings from other FHLBanks) and repurchase agreements as sources of funds. It is also possible that an event (such as a natural disaster) that might impede the Bank's ability to raise funds by issuing consolidated obligations would also limit the Bank's ability to access the markets for federal funds purchased and/or repurchase agreements.

Under those circumstances, to the extent that the balance of principal and interest that came due on the Bank's debt obligations and the funds needed to pay its operating expenses exceeded the cash inflows from its interest-earning assets and proceeds from maturing assets, and if access to the market for consolidated obligations was not again available, the Bank would seek to access funding under the Contingency Agreement to repay any principal and interest due on its consolidated obligations. However, if the Bank were unable to raise funds by issuing consolidated obligations, it is likely that the other FHLBanks would have similar difficulties issuing debt. If funds were not available under the Contingency Agreement, the Bank's ability to conduct its operations would be compromised even earlier than if this funding source was available.

A summary of the Bank's contractual cash obligations and off-balance-sheet lending-related financial commitments by due date or remaining maturity as of December 31, 2018 is provided in the 2018 10-K. There have been no material changes in the Bank's contractual obligations outside the normal course of business during the three months ended March 31, 2019.

Recently Issued Accounting Guidance

For a discussion of recently issued accounting guidance, see "Item 1. Financial Statements" (specifically, Note 2 beginning on page 7 of this report).

ITEM 3. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

The following quantitative and qualitative disclosures about market risk should be read in conjunction with the quantitative and qualitative disclosures about market risk that are included in the 2018 10-K. The information provided in this item is intended to update the disclosures made in the 2018 10-K.

As a financial intermediary, the Bank is subject to interest rate risk. Changes in the level of interest rates, the slope of the interest rate yield curve, and/or the relationships (or spreads) between interest yields for different instruments have an impact on the Bank's estimated market value of equity and its earnings. This risk arises from a variety of instruments that the Bank enters into on a regular basis in the normal course of its business.

The terms of member advances, investment securities, and consolidated obligations may present interest rate risk and/or embedded option risk. As discussed in Management's Discussion and Analysis of Financial Condition and Results of Operations, the Bank makes extensive use of interest rate derivative instruments, primarily interest rate swaps, swaptions and caps, to manage the risk arising from these sources.

The Bank has investments in residential mortgage-related assets, primarily CMOs and MPF mortgage loans, both of which present prepayment risk. This risk arises from the mortgagors' option to prepay their mortgages, making the effective maturities of these mortgage-based assets relatively more sensitive to changes in interest rates and other factors that affect the mortgagors' decisions to repay their mortgages as compared to other long-term investment securities that do not have prepayment features. A decline in interest rates generally accelerates mortgage refinancing activity, thus increasing prepayments and thereby shortening the effective maturity of the mortgage-related assets. Conversely, rising rates generally slow prepayment activity and lengthen a mortgage-related asset's effective maturity.

The Bank has managed the potential prepayment risk embedded in mortgage assets by purchasing securities that maintain their original principal balance for a fixed number of years, by purchasing highly structured tranches of mortgage securities that substantially limit the effects of prepayment risk, by issuing a combination of callable and non-callable debt with varying maturities, and/or by using interest rate derivative instruments to offset prepayment risk specific both to particular securities and to the overall mortgage portfolio.

The Bank's Enterprise Market Risk Management Policy provides a risk management framework for the financial management of the Bank consistent with the strategic principles outlined in its Strategic Business Plan. The Bank develops its funding and hedging strategies to manage its interest rate risk within the risk limits established in its Enterprise Market Risk Management Policy.

The Enterprise Market Risk Management Policy articulates the Bank's tolerance for the amount of overall interest rate risk the Bank will assume by limiting the maximum estimated loss in market value of equity that the Bank would incur under simulated 200 basis point changes in interest rates to 15 percent of the estimated base case market value. As reflected in the table below, the Bank was in compliance with this limit at each month-end during the three months ended March 31, 2019.

As part of its ongoing risk management process, the Bank calculates an estimated market value of equity for a base case interest rate scenario and for interest rate scenarios that reflect parallel interest rate shocks. The base case market value of equity is calculated by determining the estimated fair value of each instrument on the Bank's balance sheet, and subtracting the estimated aggregate fair value of the Bank's liabilities from the estimated aggregate fair value of the Bank's assets. For purposes of these calculations, mandatorily redeemable capital stock is treated as equity rather than as a liability. The fair values of the Bank's financial instruments (both assets and liabilities) are determined using either vendor prices or a pricing model. For those instruments for which a pricing model is used, the calculations are based upon parameters derived from market conditions existing at the time of measurement, and are generally determined by discounting estimated future cash flows at the replacement (or similar) rate for new instruments of the same type with the same or very similar characteristics. The market value of equity calculations include non-financial assets and liabilities, such as premises and equipment, other assets, payables for AHP, and other liabilities at their recorded carrying amounts.

For purposes of compliance with the Bank's Enterprise Market Risk Management Policy limit on estimated losses in market value, market value of equity losses are defined as the estimated net sensitivity of the value of the Bank's equity (the net value of its portfolio of assets, liabilities and interest rate derivatives) to 200 basis point parallel shifts in interest rates.

The following table provides the Bank's estimated base case market value of equity and its estimated market value of equity under up and down 200 basis point interest rate shock scenarios (and, for comparative purposes, its estimated market value of equity under up and down 100 basis point interest rate shock scenarios) for each month-end during the period from December 2018 through March 2019. In addition, the table provides the percentage change in estimated market value of equity under each of these shock scenarios for the indicated periods.

MARKET VALUE OF EQUITY
(dollars in billions)

		Up 200 Basis Points[1]		Down 200 Basis Points[2]		Up 100 Basis Points[1]		Down 100 Basis Points[2]	
	Base Case Market Value of Equity	Estimated Market Value of Equity	Percentage Change from Base Case	Estimated Market Value of Equity	Percentage Change from Base Case	Estimated Market Value of Equity	Percentage Change from Base Case	Estimated Market Value of Equity	Percentage Change from Base Case
December 2018	$ 3.781	$ 3.802	0.56 %	$ 3.562	(5.79)%	$ 3.810	0.77%	$ 3.684	(2.57)%
January 2019	3.854	3.885	0.80 %	3.612	(6.28)%	3.887	0.86%	3.744	(2.85)%
February 2019	3.952	3.932	(0.51)%	3.776	(4.45)%	3.958	0.15%	3.876	(1.92)%
March 2019	3.757	3.767	0.27 %	3.588	(4.50)%	3.783	0.69%	3.675	(2.18)%

(1) In the up 100 and up 200 scenarios, the estimated market value of equity is calculated under assumed instantaneous +100 and +200 basis point parallel shifts in interest rates.

(2) In the down 100 and down 200 scenarios, the estimated market value of equity is calculated under assumed instantaneous -100 and -200 basis point parallel shifts in interest rates, subject to a floor of 0.01 percent.

A related measure of interest rate risk is duration of equity. Duration is the weighted average maturity (typically measured in months or years) of an instrument's cash flows, weighted by the present value of those cash flows. As such, duration provides an estimate of an instrument's sensitivity to small changes in market interest rates. The duration of assets is generally expressed as a positive figure, while the duration of liabilities is generally expressed as a negative number. The change in value of a specific instrument for given changes in interest rates will generally vary in inverse proportion to the instrument's duration. As market interest rates decline, instruments with a positive duration are expected to increase in value, while instruments with a negative duration are expected to decrease in value. Conversely, as interest rates rise, instruments with a positive duration are expected to decline in value, while instruments with a negative duration are expected to increase in value.

The values of instruments having relatively longer (or higher) durations are more sensitive to a given interest rate movement than instruments having shorter durations; that is, risk increases as the absolute value of duration lengthens. For instance, the value of an instrument with a duration of three years will theoretically change by three percent for every one percentage point (100 basis point) change in interest rates, while the value of an instrument with a duration of five years will theoretically change by five percent for every one percentage point change in interest rates.

The duration of individual instruments may be easily combined to determine the duration of a portfolio of assets or liabilities by calculating a weighted average duration of the instruments in the portfolio. These combinations provide a single straightforward metric that describes the portfolio's sensitivity to interest rate movements. These additive properties can be applied to the assets and liabilities on the Bank's balance sheet. The difference between the combined durations of the Bank's assets and the combined durations of its liabilities is sometimes referred to as duration gap and provides a measure of the relative interest rate sensitivities of the Bank's assets and liabilities.

Duration gap is a useful measure of interest rate sensitivity but does not account for the effect of leverage, or the effect of the absolute duration of the Bank's assets and liabilities, on the sensitivity of its estimated market value of equity to changes in interest rates. The inclusion of these factors results in a measure of the sensitivity of the value of the Bank's equity to changes in market interest rates referred to as the duration of equity. Duration of equity is the market value weighted duration of assets minus the market value weighted duration of liabilities divided by the market value of equity.

The significance of an entity's duration of equity is that it can be used to describe the sensitivity of the entity's market value of equity to movements in interest rates. A duration of equity equal to zero would mean, within a narrow range of interest rate movements, that the Bank had neutralized the impact of changes in interest rates on the market value of its equity.

A positive duration of equity would mean, within a narrow range of interest rate movements, that for each one year of duration the estimated market value of the Bank's equity would be expected to decline by about 0.01 percent for every positive 0.01 percent change in the level of interest rates. A positive duration generally indicates that the value of the Bank's assets is more sensitive to changes in interest rates than the value of its liabilities (i.e., that the duration of its assets is greater than the duration of its liabilities).

Conversely, a negative duration of equity would mean, within a narrow range of interest rate movements, that for each one year of negative duration the estimated market value of the Bank's equity would be expected to increase by about 0.01 percent for every positive 0.01 percent change in the level of interest rates. A negative duration generally indicates that the value of the Bank's liabilities is more sensitive to changes in interest rates than the value of its assets (i.e., that the duration of its liabilities is greater than the duration of its assets).

The following table provides information regarding the Bank's base case duration of equity as well as its duration of equity in up and down 100 and 200 basis point interest rate shock scenarios for each month-end during the period from December 2018 through March 2019.

DURATION ANALYSIS
(expressed in years)

	Base Case Interest Rates				Duration of Equity			
	Asset Duration	Liability Duration	Duration Gap	Duration of Equity	Up 100[1]	Up 200[1]	Down 100[2]	Down 200[2]
December 2018	0.24	(0.36)	(0.12)	(1.81)	(0.11)	0.39	(3.14)	(3.33)
January 2019	0.24	(0.37)	(0.13)	(2.05)	(0.22)	0.18	(3.42)	(3.50)
February 2019	0.28	(0.36)	(0.08)	(1.14)	0.42	0.75	(2.47)	(2.55)
March 2019	0.26	(0.37)	(0.11)	(1.74)	0.09	0.54	(2.44)	(2.16)

(1) In the up 100 and up 200 scenarios, the duration of equity is calculated under assumed instantaneous +100 and +200 basis point parallel shifts in interest rates.

(2) In the down 100 and down 200 scenarios, the duration of equity is calculated under assumed instantaneous -100 and -200 basis point parallel shifts in interest rates.

Duration of equity measures the impact of a parallel shift in interest rates on an entity's market value of equity but may not be a good metric for measuring changes in value related to non-parallel rate shifts. An alternative measure for that purpose uses key rate durations, which measure portfolio sensitivity to changes in interest rates at particular points on a yield curve. Key rate duration is a specialized form of duration. It is calculated by estimating the change in value due to changing the market rate for one specific maturity point on the yield curve while holding all other variables constant. The sum of the key rate durations across an applicable yield curve is approximately equal to the overall portfolio duration.

The duration of equity measure represents the expected percentage change in the Bank's market value of equity for a one percentage point (100 basis point) parallel change in interest rates. The key rate duration measure represents the expected percentage change in the Bank's market value of equity for a one percentage point (100 basis point) parallel change in interest rates for a given maturity point on the yield curve, holding all other rates constant. The Bank's key rate duration limit is 5 years, measured as the difference between the maximum and minimum key rate durations calculated for 11 defined individual maturity points on the yield curve. The Bank calculates these metrics monthly and was in compliance with these policy limits at each month-end during the three months ended March 31, 2019.

ITEM 4. CONTROLS AND PROCEDURES

Evaluation of Disclosure Controls and Procedures

The Bank's management, under the supervision and with the participation of its Chief Executive Officer and Chief Financial Officer, conducted an evaluation of the effectiveness of the Bank's disclosure controls and procedures (as such term is defined in Rules 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934, as amended (the "Exchange Act")) as of the end of the period covered by this report. Based upon that evaluation, the Bank's Chief Executive Officer and Chief Financial Officer concluded that, as of the end of the period covered by this report, the Bank's disclosure controls and procedures were effective in: (1) recording, processing, summarizing and reporting information required to be disclosed by the Bank in the reports that it files or submits under the Exchange Act within the time periods specified in the SEC's rules and forms and (2) ensuring that information required to be disclosed by the Bank in the reports that it files or submits under the Exchange Act is accumulated and communicated to the Bank's management, including its Chief Executive Officer and Chief Financial Officer, as appropriate to allow timely decisions regarding required disclosures.

Changes in Internal Control Over Financial Reporting

There were no changes in the Bank's internal control over financial reporting (as such term is defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act) during the fiscal quarter ended March 31, 2019 that have materially affected, or are reasonably likely to materially affect, the Bank's internal control over financial reporting.

PART II. OTHER INFORMATION

ITEM 6. EXHIBITS

31.1	Certification of principal executive officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
31.2	Certification of principal financial officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
32.1	Certification of principal executive officer and principal financial officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
101	The following materials from the Bank's quarterly report on Form 10-Q for the quarterly period ended March 31, 2019, formatted in eXtensible Business Reporting Language ("XBRL"): (i) Statements of Condition as of March 31, 2019 and December 31, 2018; (ii) Statements of Income for the Three Months Ended March 31, 2019 and 2018; (iii) Statements of Comprehensive Income for the Three Months Ended March 31, 2019 and 2018; (iv) Statements of Capital for the Three Months Ended March 31, 2019 and 2018; (v) Statements of Cash Flows for the Three Months Ended March 31, 2019 and 2018; and (vi) Notes to the Financial Statements for the quarter ended March 31, 2019.

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

May 13, 2019	By	/s/ Tom Lewis
Date		Tom Lewis
		Executive Vice President and Chief Financial Officer (Principal Financial and Accounting Officer)

EXHIBIT INDEX

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Exhibit 31.1

CERTIFICATION

I, Sanjay Bhasin, certify that:

1. I have reviewed this quarterly report on Form 10-Q of the Federal Home Loan Bank of Dallas;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

    (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

    (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

    (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

    (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

    (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

    (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: May 13, 2019

/s/ Sanjay Bhasin

Sanjay Bhasin
President and Chief Executive Officer

Exhibit 31.2

CERTIFICATION

I, Tom Lewis, certify that:

1. I have reviewed this quarterly report on Form 10-Q of the Federal Home Loan Bank of Dallas;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

    (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

    (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

    (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

    (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

    (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

    (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: May 13, 2019

/s/ Tom Lewis

Tom Lewis

Executive Vice President and Chief Financial Officer

Exhibit 32.1

**CERTIFICATION PURSUANT TO 18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002**

In connection with the Quarterly Report on Form 10-Q of the Federal Home Loan Bank of Dallas (the "Bank") for the period ended March 31, 2019, as filed with the Securities and Exchange Commission on the date hereof (the "Report"), Sanjay Bhasin, as President and Chief Executive Officer of the Bank, and Tom Lewis, as Executive Vice President and Chief Financial Officer of the Bank, each hereby certifies, pursuant to 18 U.S.C. Section 1350, that, to the best of his knowledge:

(1) The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

(2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Bank.

/s/ Sanjay Bhasin	/s/ Tom Lewis
Sanjay Bhasin President and Chief Executive Officer	Tom Lewis Executive Vice President and Chief Financial Officer
May 13, 2019	May 13, 2019

A signed original of this written statement required by Section 906 has been provided to the Bank and will be retained by the Bank and furnished to the Securities and Exchange Commission or its staff upon request.